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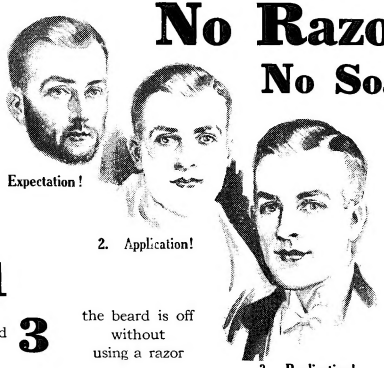

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AMAZING STORIES

Scientific Fiction

Vol. 7 **August, 1932** **No. 5**

In Our Next Issue

THE LADY OF LIGHT, by Jack Williamson. The superiority of the human being lies in the fact that he can adapt himself to new conditions and situations most easily. Since we have probably not even barely touched the limits of possibility, this seeming fantastic story by our well-known author may, in the future, show more than a grain of truth.

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THE SWORDSMAN OF SARVON, by Charles Cloukey. (A Serial in three parts) Part II. While the world's most prominent statesmen are seriously discussing plans for general disarmament and at the same time talking about the possibilities of a future world-war, other troubles might be brewing from an altogether foreign source—and are so depicted, in this instalment. There are excitement, thrills and science galore.

And other unusual scientific fiction.

In Our August Issue

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Our Cover

this issue depicts a scene from the story entitled, "Beyond the Planetoids," by Edwin K. Sloat, in which are shown the escaped prisoners, fitted out in space suits, floating through the Void, just as the two pirate ships meet in a collision, to the utter destruction of both.

Cover Illustration by Morey

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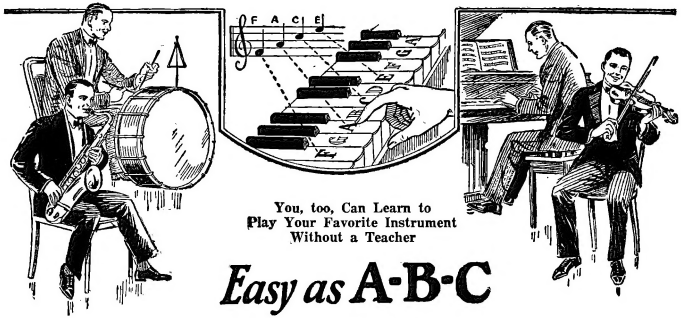

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VOLUME 7

AMAZING STORIES

THE MAGAZINE OF SCIENTIFICTION

AUGUST, 1932 No. 5

T. O'CONOR SLOANE, Ph.D., *Editor*

MIRIAM BOURNE, *Managing Editor*

Editorial and General Offices: 350 Hudson Street, New York, N. Y.

Extravagant Fiction Today - - - - - - - - - - *Cold Fact Tomorrow*

Simple Laws in Science

By T. O'Conor Sloane, Ph.D.

IN olden days, man's ignorance of the laws of nature was paralleled by his wrong conception of things. When we hear about the old-time astronomers who had no telescopes and whose astrolabes, quadrants and other astronomical instruments were extremely imperfect and of crude construction, we are astonished at what they did find out about the laws governing the celestial bodies. It is when we come to other things, that their ignorance of the laws of nature, a disposition due to preconceived ideas, that their lack of progress and ignorance of what was going on before their very eyes, is startlingly evident. For centuries it was believed that a large weight would fall more rapidly than a small one and it was in the sixteenth or seventeenth century that the discovery was made that, other things being equal, the small and large weight would each fall at the same rate. Galileo is said to have proved the law by throwing both large and small objects from the leaning tower of Pisa. It is fair to call Galileo's discovery a simplification. A simple law took the place of one which would have lead to endless confusion.

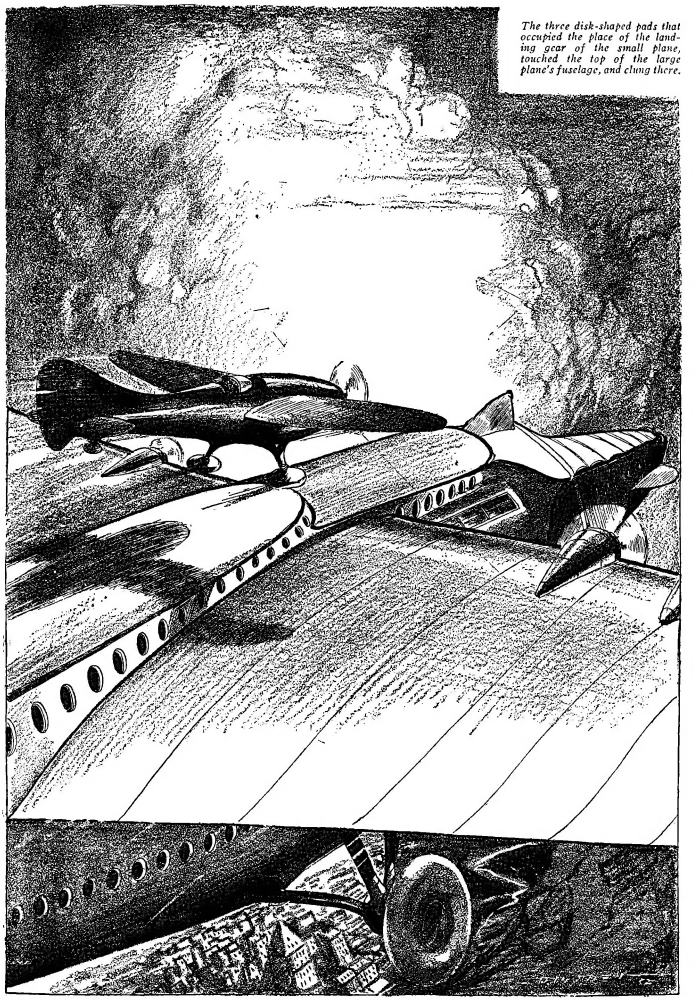
We can now come to chemistry. The old idea of an atom was that there was such a thing as an atom of wood, an atom of iron and an atom of innumerable things that exist in this world. If we follow this out, we would have thousands of atoms, each different from the other. The great step in the development of chemistry was that these things which had been called atoms were not primitive bodies but were very complicated in many cases. In constructing a house, bricks are used. Each brick is the same as the other in many cases, unless the constructor desires, for one reason or another, to use different kinds of bricks. Just as an entire city could be built with a very small variety of bricks, chemistry teaches us that all of the most complicated, as well as the simpler substances, are built up of no more than 92 different kinds of atoms and that the organic world—wood, leather and the innumerable chemicals used in commerce—is for the most part built of only one-half dozen elements. Modern chemistry is really a simplifier. The basic simplicity of things is most impressive when we realize that everything whatsoever in this world is made up of only 92 kinds of elements, or bricks, as we have been terming them, and that less than one-half dozen of the most familiar elements build up the most complicated and almost infinite number of substances. Galileo's experiment is an excellent illustration of the simplification that truth brought about in the domain of physics. The work of chemists of less than a century and a half ago operated in the same direction of simplification and showed us how five or six different kinds of atoms were generally all that were required to form a myriad of substances in the organic world.

Chemistry gives a good illustration of the simplicity of some laws or rather theories of science in the theory of the planetary atom. Here the atom is supposed to be composed of positive electrons, generally called protons, and the atomic weight of the elements is determined by them. Then there are planetary or negative electrons usually called electrons, which rotate about the mass of protons, as the planets rotate about the sun. In most cases there are not enough electrons to take care of the protons, as all must be neutralized, so there are supposed to be other electrons bound up and motionless in the central proton group. Nothing could be simpler than the explanation of the most recondite thing in chemistry, but there are constantly appearing new theories of the atom, so it becomes more complicated. The simple planetary atom seems too good to be true.

And now, if we go to the heavens, we find the utmost simplicity obtaining there. If we cut a cone obliquely, and not too obliquely, we obtain a curve called the ellipse and this particular curve it is which the heavenly planetary bodies follow as they go round the sun. In the solar system, the planets and asteroids go ceaselessly through space following accurately an elliptical path, each one for itself, some of the ellipses being almost circles. The elliptical curve brings them a little closer to the sun at one point of the path than at the rest of it, so that in order to obtain equilibrium, there has to be a change in velocity of rotation to vary the centrifugal force. This change in velocity one might naturally think would be a desperately complicated affair. It really is the extreme of simplicity. We draw a line from the sun to a planet. That line is called the radius vector and, of course, it is shortest when the planet and sun are closest together. Now, the variations in velocity of a planet are such that for the same number of degrees, the area swept over by the radius vector is always the same. When the radius vector is shorter, the planet has to go faster than when it is longer, following this extremely simple law. The mighty Jupiter, nearly 250 million miles from the sun, and Mercury 36 million miles from the great luminary, follow this law, showing how simple some laws of astronomy can be.

Another example of a simple law of astronomy is named from Johann Elert Bode, a German astronomer who was born in the latter part of the eighteenth century. It can be found in elementary manuals of astronomy and is a simple arithmetical rule, based on a series.

This gives the approximate distance of the planets, Jupiter excepted, from the sun.



The three disk-shaped pads that occupied the place of the landing gear of the small plane, touched the top of the large plane's fuselage, and clung there.

An Engrossing New Interplanetary Serial

The Swordsman of Sarvon

By Charles Cloukey

Author of "Anachronism," "Paradox," etc.

SCIENTISTS and laymen alike are now less and less inclined to make any definite statement about the absolute impossibility of any seeming "pipe dream" that is offered as a possibility for the future, because so many "absolute impossibilities" have recently become practical working realities. In this engrossing new serial, which, incidentally, is the best story, by this author, we have thus far published, contains a surprising number of potential scientific ideas that are very convincingly set forth.

Illustrated by MOREY

CHAPTER I

Murder and Science

IT was in August, 2180, that Robert Huston, first vice-president of United Utilities, sought for professional services of his former college chum, Burton Boyd. Boyd met him at the University Club, and they sought a secluded corner. Huston explained the situation that confronted him.

"Since the year 2009, Burt, United Utilities has been the largest and most powerful corporation in the world. I won't pretend that there haven't been shady spots in its history, but for the last few decades the business has been honorably managed. It has prestige and the good-will of most of the millions of consumers in this world today.

"You know as well as I do that one man is responsible for its present position, and that he is Eugene Chilton, the richest individual in the world. He owns outright fifty-one per cent of the stock of the corporation.

"He was found dead three hours ago.

"Neither the press nor the television news-agencies know of his death yet, but it will not be possible to keep the secret for very long.

"His will disposes of the greatest accumulation of wealth the world has ever seen. I'm not interested in what happens to the billions of dollars. Most of it goes to charity. The important thing is what happens to the controlling interest in the corporation. The will is clear and concise. What's more, it is genuine and can be proved genuine.

"Laugh if you care to, but it's a fact that that hard-headed business man was three-fifths a poet. He ran that business, not for the profit in it, but sincerely as a means to benefit humanity. Perhaps its greatest asset is the reputation for fair dealing which it possesses. You would expect such a man to leave large sums of money to charity.

"You know that three months ago Chilton's air-yacht went down in flames three hundred miles north of Hawaii. His life was saved by the three Dornn brothers of Vienna, who were cruising near by. They own jointly many European business interests, which have been losing money steadily. Our financial bureau tells us that the three Dornns just about have their backs to the wall. Chilton knew this, and as a reward for their saving his life, he lent them large amounts of money, which they seem to have lost also. To crown the whole situation, he left the controlling majority of United Utilities stock to the Dornn brothers. He was truly grateful for his rescue.

"But there was another factor that influenced him to draw such a will. His only relative is his nephew, Lee Chilton, a youngster of twenty-one or-two, clean and straight, but wild. He's a daredevil; takes chances for the fun of it. You've heard of some of his wing-walking exploits. And he's every bit as hot-headed and idealistic as the older man. They had a quarrel just before he left on that Hawaiian trip. Eugene Chilton wanted his nephew to settle down and take some interest in the business. The boy wanted to be free, had no interest in the business whatever, and said so, with the result that he was disinherited immediately. After the accident and

the rescue, a new will was made, ignoring the boy, and giving the whole thing to the Dornns.

"That was three months ago. Eugene Chilton died before his anger toward his nephew had cooled, and the will stands. It is absolutely valid.

"For the present, at least, I am the acting head of United Utilities. Vice-president is more than a name in this organization."

Robert Huston smoked a while in silence before he continued. Burton Boyd had been taking notes on his companion's talk. He looked up and frowned, puzzled.

"I follow you," said Burton Boyd, "but so far I don't see why you want me."

"I want you, Burt, because you combine ideally two professions. You are a detective and a lawyer. You not only track down your criminal, but you take him into court and convict him. Your reputation speaks for itself. On behalf of the directors of United Utilities, I want to retain you both as an investigator and as a lawyer.

"To come to the point, there are circumstances connected with the death of Chilton that seem to indicate murder. I am inclined to suspect that the Dornn brothers have something to do with it. If you could prove that, the will would be nullified and the company would become the property of the natural heir, his only nephew.

"I told you that the Dornns were losing money. It hasn't been the fault of their business enterprises, though they would like to make it appear so. That money has gone into politics—crooked politics. The three brothers have been spending freely, too freely, perhaps, and they are the power behind Confederated Europe today.

"You are certainly fully aware of the critical international situation. You know that there is a threat of war on the horizon. If war comes now, it won't last three days, and I doubt if ten per cent of the world's population will escape death—ugly death at that. Aircraft, horrific explosives, virulent disease germs, the power ray; efficient scientific murder by the hundred million.

"So, as a business man, as a humanitarian, as an American, I will do anything I can to prevent the control of this corporation from passing into the hands of Europeans, our potential enemies; particularly, the three who are the hidden cause of a great part of the bitterness between United America and the European Confederation. The Chino-Jap combine, United Mongolia, under Dictator Howard Fu-Zhse, holds the balance of power. If they decide to aid Europe, America hasn't the ghost of a chance. And Fu-Zhse is ambitious.

"I am not particularly interested in Lee Chilton, but he is the one who should inherit United Utilities, for the good of the world.

"To maintain their control, the three brothers need more money, and they need it now. Eugene Chilton's last loans to them have melted. They decided to kill him before he found out their real business. If he had ever seen through them, that will would have been torn up immediately. I myself only received this information about the Dornns earlier today from an investigator in Russia. I was on my way to lay it before Chilton. If he had lived a few hours longer the three brothers would have lost their chance at unlimited wealth. I believe they killed him just in time to keep him from changing that foolish will, and just at the time when they needed funds to further their political ambitions. But I could never prove such accusations.

"If, as a lawyer and an investigator, you can keep the corporation in American hands, you may write yourself a ten-figure check and United Utilities will cash it for you ten minutes after it's written. More, if you want it. As a lawyer, will you not be able to employ various legal delays to prevent the will from going immediately into effect? Meanwhile your secret staff can be carrying on its investigations. I come to you because I've known you from college, and I have more confidence in you than I possibly could have in anyone else. And you operate on a large scale. Do you accept the proposition?"

"Yes. You may consider me retained. We'll fight in court and out of court, at the ends of the earth if necessary, through heaven, hell, or both. From what I know personally of the Dornns, I think most of the fighting will be outside of court. Watch out for attempts on your life, Bob. I think they intercepted the report of your Russian investigator, and so were able to act barely in time. If they did, they know that you know, or suspect, entirely too much. I'm not trying to scare you, but it's possible that you, or perhaps both of us, may be marked for death right now. Sudden death, at an early date. But I'm glad you came to me. It's a privilege to be in on such a fight."

The speech was important because it was so utterly characteristic of the man. Burton Boyd had attained his position at the head of his professions because he was preeminently a fighter; one of that Anglo-Saxon breed that positively never quits. Perhaps he guessed that the greatest fight of his career was before him, but he certainly never guessed where it would lead him, and he could not have guessed the secret of the Dornn brothers. But when Burton Boyd had the chance to help his friend of United Utilities, he made the decision that eventually led him to the Swordsman of Sarvon.

"Consider me retained," he said.

Huston continued: "Thanks. Let me tell you about Chilton. I received the message from my Russian agent in code 4387b, at twelve o'clock noon today. I was in Philadelphia. Rather than phone, I came to New York at once by fast plane. I was here at twelve thirty-five, to learn that Chilton was dead. He had been seen to enter his enormous private office at twelve fifteen, and was found dead at twelve twenty-nine by his trusted secretary, who was ushering in a visitor who had an appointment with Chilton at twelve thirty. You see how small the time-limit is. Between twelve fifteen and twelve twenty-nine no one could have entered his sanctum from the outer office, which was filled with busy stenotyping machines under the control of six reputable employees. No one could have entered even the outer office unless he had business there, and no one did. The only other way the killer could have entered the private office is through the windows, which are a sheer one thousand feet above the highest street level. The office is on the hundredth floor of the new Utilities Building, and it is inconceivable that anyone could have climbed to those windows from the floor above or the floor below. The outer wall of that building is as smooth as polished marble, and there is nothing that would give a handhold even to an ape. Also, the windows were securely bolted from the inside, and they have not been opened,

I am told, since the building was put up. The breeze is a trifle too strong for real comfort at that altitude this time of year, and fresh air is supplied by the building's very fine ventilating system."

"How do you know he was murdered?"

"He was lying face down, near the side of the desk. There were no signs of violence in the room. Nothing was disturbed, but the side of his skull was crushed in as if someone had hit him with a heavy sledge hammer. It is unexplainable. There is no trace of a bullet or missile of any type, no hint of the object that shattered the arched bones of the brain case in such a horrifying manner. Not a visible clue.

"The secretary thought that he might have slipped and hit his head against a corner of the desk as he fell, but he withdrew that suggestion when he had examined things. Such an accident might render a man unconscious, would probably raise a lump, might cut the skin or even fracture the skull, but it wouldn't crush in the side of the head. We examined the desk, but it was undisturbed. There was no blood on it anywhere. All the blood was on the thick rug. Those are all the facts I know. I don't see that they indicate anything, except that death wasn't accidental. And it could not possibly be suicide. That man had nothing to hide, nothing to fear. He was honored and happy, and he enjoyed life.

"I ORDERED that a strict secrecy be kept. Besides ourselves, the only ones who know of the death are the secretary, the six clerks in the outer office, and the visitor, who is United Utilities' manager of the Hudson Bay power district. All of them are absolutely above suspicion—I can swear to that. They understand a little of the seriousness of the situation and agreed to keep the death secret for a little while. We had the body removed by undertakers, who are not aware of his identity. His name was much better known than his face was, and the face was unrecognizable anyhow. The undertakers don't know of the scar on his wrist, which I have seen many times, and which will prove the identity of the body should it ever become necessary to do so. There were no identification marks on his clothes. He dressed plainly. He has no relatives except that nephew, Lee, who is somewhere in Europe at present. That will help us keep the death under cover for a little while. I want to give you time to establish some legal delays, if possible. We don't intend to hand over this corporation to the Dornns until we have to, and not then, if there is any way out of it."

"If you are right about the innocence of the clerks, secretary, and that manager, and if there is no access to the office through the windows, I might be inclined to think that the assassin had mastered invisibility. It's hardly probable that such a process is perfected now, but we can't tell what some scientist may have been able to do secretly. You know about the recent experiments at Ontario University, reproving the photonic character of light. There is no telling where those experiments may lead," mused Boyd. "Can you get me a set of photostats of the plans of the Utilities Building?"

"Certainly, Burt, but there's more to tell. I've outlined the situation to you as well as I can, and it's complex and critical. There is another set of circumstances that further complicates matters, but I haven't the time right now to tell them to you, as I have an appointment in five minutes with Harrison Ives, the scientist. If you would care to accompany me to his laboratory on Long Island, you will be able to find out for yourself the other set of influences at work. Unless you're in a hurry, come along."

As the lawyer-detective, Boyd, and the vice-president, Huston, made their way toward the subway that was to speed them to Jamaica, their discussion continued to absorb them, and they did not notice the small man, undoubtedly a south-European, that followed them at a discreet distance. Even Boyd, with all his experience, never suspected the shadow.

"What kind of a man is this Harrison Ives whom we are to interview?" inquired Boyd in the precise tone he always used when seeking information.

"Ives is a C. E., a Ph.D., a F. R. S., and several other things. He is a perfect example of the abstract scientist, the man who performs experiments, investigates phenomena, collects data, invents and discovers, merely because he wants to. Many of his discoveries and investigations have no practical value whatever. He has done remarkable work in all branches of optics. He spent three years investigating the physical and chemical properties of the rare element, europium, and those of samarium which closely resembles europium. He is the greatest authority on those elements, as well as on ytterbium, scandium and the various other rare earth elements—all of which is totally useless, practically speaking. The average man, even the average scientist, would spend his time investigating something useful, something in which there might be profit. Ives is the pure scientific type. He has all the money he needs, and he is really interested in knowledge for its own sake. When he announces some scientific fact, even if it's something like the exact fusing temperature of praeseodymium chloride, the scientific world knows that that fact is *right*, even if it is useless.

"So when he told me that he had perfected that elusive process that has baffled scientific men since the first part of the twentieth century, the liberation of atomic energy, *under control*, I knew he meant just that."

"Nothing impractical or abstract about that."

"You bet your life there isn't. It means this: Within the next few years, atomic energy is going to supply all the light, heat, and power used in the world, either directly, or converted into electricity. All the natural petroleum known to exist in the world was exhausted fifty years ago. All our liquid fuels are synthetic and costly, comparatively speaking. Our coal supply is diminishing, and even with the most modern processes there is a terrible percentage of wasted power when you transform coal into electricity. Besides, it is expensive. We are obtaining tremendous amounts of power from hydroelectric plants, but even water-power is limited and costly. We have harnessed the tides and drawn power from the sun. But all of these will be out of date when Harrison Ives' process comes into use, and it will soon. It's so cheap and limitless! There is an unbelievable amount of power locked up in the atoms of a pebble. For centuries wise men in laboratories have been trying to get at it and put it to work. A small glass of water contains more than enough atomic power to drive one of our enormous air-liners across the Atlantic at record speed, and water is cheap. Furthermore, Ives' invention is not complicated or costly. It is practical, a rare quality in the scientific work of Harrison Ives.

"Ives wants a lot of money so he can purchase large supplies of the rare elements, which are costly. He is convinced that somewhere among the rare earth group, somewhere between 58 and 73 of the scale of atomic numbers, he can find the key to transmutation. At the same time, he doesn't want to worry over such a detail, as the patenting of the priceless process that he has stumbled into while searching for transmutation. So he offered to sell it to United Utilities. He knows that the corporation will deal with him squarely, will buy the atomic power process and attend to the necessary patent protection, pay him two hundred million a year or whatever his price is, and leave him free to play with his rare earth elements and worry over the intricacies of extracting some electrons and a single proton from an atom of mercury and making an atom of gold out of it.

"He knew that he could deal with this tremendous corporation, even to the selling of an unpatented, stealable scientific process of uncalculable value, with complete safety. He laid the proposition before me yesterday. I've known him and his sister for a number of years, so he came to me. I told him I would bring out the contracts today. Eugene Chilton backed me up.

"BUT you know what has happened since then. If the Dornns, the power behind the organized, insidious publicity and propaganda that is steadily leading this civilized planet into a war of ultra-scientific horror, are to inherit United Utilities, *they must not have this secret.*

"You recognize, as Eugene Chilton did, that without this process, United Utilities would collapse. We own, among other things, four-fifths of the power supplies of the world. Hydro-electric plants, coal, tide machines, synthetic fuels, and all the rest of it. Light, heat, and power. But intra-atomic power is fundamentally so much cheaper than any of these that the corporation's business would vanish if in competition with it. Atomic power could be sold at one-tenth what it would cost to produce any other form of power.

"In order to continue to exist, United Utilities must have this process. Chilton wasted no time when he had the chance to buy it. The contract was to be closed today.

"But Chilton's death has changed the situation. I'm going to lay the whole situation before Ives, and I'm fairly sure he'll cooperate. He must take immediate steps to secure ironclad patents in every country of the world, or else he must deposit that secret in cipher (and it is mathematically possible to make a cipher mathematically impossible of solution without the key) in the safest safe-deposit vault in the country. The secret, and even the fact of its existence, must be carefully concealed, or else invincibly protected, until we see what happens to the corporation. If it stays in American hands, it can take over the atomic power process, paying Ives handsomely for the delay. If the Dornns get the company, it will not be hard to get financial backing for a new power trust and put United Utilities out of business. The only trouble is that the Dornns could cash in for billions as soon as they got the control, before the crash. It would also be possible to form the new company now, and crash United Utilities anyhow, but we don't want to disrupt this two-hundred-year-old organization. It can fight hundreds of times more effectively as a unit, for it is the biggest commercial organization in the world. It has power and above all, prestige."

The two men stepped off the subway car at Jamaica and took a taxi to the skyscraper in whose upper floors was the extensive laboratory of Harrison Ives. Their trailer was behind in another taxi. Boyd continued his questioning as they rode up in the elevator.

"What kind of a man is Ives, personally?"

"Interesting, in a quiet way. Modest about his achievements, which are remarkable for a man twenty-nine years old. He has a younger sister who lives with him and keeps house. She is one of the few girls I have ever met, who is utterly charming, almost fascinating, without being beautiful or physically attractive in the least. Her brother is like her, not much looks, for they're both rather awkward and ungainly, but with a quiet and penetrating personality. Shy, both of them, particularly he. But you'll meet him in another minute, and you can judge for yourself."

Huston rapped on the door of Ives' laboratory. At the second he did so a throaty cry of pain, human enough to make their hearts jump, came from behind that door. There was a crash as of a heavy object falling, and then supreme silence, unmarred by the faintest suspicion of a sound.

There was no bell. Their repeated knocking brought no answer. Finally Burton Boyd turned the knob. To their surprise, the door gave inward, and they stared into the room.

Harrison Ives lay crumpled in a heap, face downward. On the floor were blood and brain. His skull was crushed in as if someone had hit him with a sledge-hammer.

CHAPTER II

Daredevil

IN every age and in every country there are a few immortal "damfools" who take chances merely for the fun of taking them: who play with death for the fun of the game. They usually die young.

Lee Chilton was such a man.

Mentally he was quick and brilliant, though practical he was not. Physically he represented the predominating type of twenty-second century American. Wider at the shoulders than at the hips, though his whole body was deceptively slender, not hinting at the wiry strength and pantherlike quickness he possessed. His face was wider at the forehead than at the chin, though the chin showed determination and recklessness. He was like- of the tremendous force of the air currents.

Lee Chilton was returning to America from the Azores. It was night, and the controls of his monoplane were locked. Lee was flirting with death again, up on the wing of the speeding skyboat, not because he had to, but because he liked it, sticking there somehow in spite of the tremendous force of the air currents.

The moon was hidden by thick clouds, and Venus was the only bright object in the heavens.

A large meteor came very close to the plane, tracing out a brilliant path. It screamed by a few hundred yards to one side of the plane, and then burst a few hundred yards below. The concussion threw the plane upward at a sharp angle and hurled the wing-walker off his feet. Clutching wildly at space, he rolled over the edge

of the wing. His outstretched arms found the cabin door that he had left open, and he clung there. Then he pulled himself in through the door and forced it shut, taking his place at the controls and unlocking the automatic control lock. He was smiling.

The meteor aroused his curiosity. He knew it must have been large to have penetrated so far into the atmosphere, and it was far from usual for a meteor to explode. His eyes caught sight of a sizeable object that was slowly sinking through the air toward the ocean below. Closer observation showed it to be partially supported by a parachute. He turned his spotlight on it, but could not distinguish what it was.

He put his amphibian into a steep dive, passing the mysterious object. When it was above him he manoeuvered carefully into position, shut off the tractor propeller, and started his helicopters just enough to keep the plane hovering motionless. Then out that door in the side of the fuselage, and up on the wing again. He got the thing as the parachute let it down, held it by the lines of the parachute and managed to swing it in through the doorway. Then he climbed down again, using that convenient sliding door. In the lighted cabin he examined his prize, wondering idly what it had to do with the meteor. He had not seen it before the explosion. He had a half-formed theory that the meteor was artificial, a rocket of some sort, and that this thing had been inside it, released by the explosion.

It was a black metal box, kept shut by a simple clasp. He opened it. Inside was a panel ten by nineteen inches, apparently a radio set of some sort. Connected to it was a curious leather headgear lined with thin metal. Inside the headgear were two earphones and a small lump of polished copper that would come right at the back of the neck when the headgear was put on.

After ten minutes of consideration, Lee's curiosity got the better of his caution, which had never been very pronounced anyhow. He took a chance. He donned the odd arrangement to see what would happen, and wondered what to do next. There seemed to be no switch of any kind on the panel. He decided that the whole arrangement was a dud, and started to remove it.

Then in a tenth of a second the whole world went black, and the man who took the chance plunged into oblivion.

CHAPTER III

The Swordsman of Sarvon

NOWHERE in the known universe is there such an anachronistic mixture of civilization and savagery, of science and superstition, of culture and primitiveness, as there is upon the Hot Planet, Venus. There, great cities of steel fight the impenetrable jungles that hide still undiscovered monsters; there, men who fight with the sword obey their rulers, the aristocratic class of scientists and builders; there the two rival city-nations, Sarvon and Cor, flourish and prosper, surrounded by the swampy jungles and covered over by the planet's heavy blanket of clouds; there life is abundant and consequently cheap, and death is sudden and violent. And there lay the hidden key to the mystery that surrounded Eugene Chilton's death.

A large airplane left the city of Cor and hurtled through the Venerian night, low above the fetid jungle, toward a rocky high plateau in the distance. A tiny silent skyship darted down out of the cloudy upper atmosphere and cautiously approached the larger plane. Finally, the three disk-shaped pads that occupied the place of the landing gear of the small plane, touched the top of the large plane's fuselage, and clung there. The pilot of the parasite left its motor running in order not to give away his presence to the occupants of the larger ship, and climbed daringly out on its fuselage. He was a herculean bronzed man, clad in a sort of short tunic that did not hinder his movements. At his waist was a triplicate scabbard wrought in steel and gold, and it contained three swords—swords that were short, straight, and heavy, and that were accurately balanced to the fraction of a gram. Moving carefully in the darkness, he attained the point of junction of the fuselage and one wing of the large ship. Here he attached another suction pad, much smaller than those on his plane, and to which were attached wires that led to the metallic helmet on his head. Other wires led to a small box strapped to his chest. Making adjustments on the panel of the box, he listened attentively to the conversation of the large plane's passengers, who had not the slightest suspicion that they were overheard.

The two inside were conversing in the patois of Cor, but the listener, a Sarvonian, had no trouble in making out what they were saying.

"Why is it necessary to go so far from the city?" asked one.

"I do not know," replied his companion. "I am not a man of science. But I think it is because of the steel. Cor is built of steel, and this process that the council has perfected is very intricate and delicate, involving all the varied studies of astronomers, physicists, psychologists, and engineers. Very delicate currents of electricity are used, and the system must operate over great distances. I am told that this thing would not be successful in a place where there is much steel. In the cave in the cliffs there is no steel near, and there is no steel in this airship. It is made wholly from alloys of light metals which will not interfere with the electricity that is used. Even the slightest interference may be fatal to the operator."

"What are we to do?"

"We are executioners. We are to kill, after the transfer has been completed. This, I believe, is the ninth transfer, and the Council is angered by the failure of the appointed executioners in most of the former cases. We must not fail, for perhaps the fate of all Cor rests upon our shoulders. The Council has good cause to be angered."

"Why have all the others failed?"

"Meriden! Many Sarvonians can use the sword, but there is only one Swordsman of Sarvon. No one on Venus can stand against him. Somehow he has penetrated our plans every time. Each time he killed the appointed executioner, and those who should have been executed are living in Sarvon now, because of Meriden. This time, I hope, he has been beaten. That was the reason for such secrecy about this nocturnal takeoff. The Council is taking precautions. But they are not sure of themselves! There are two of us this time, and we are champions. I know of your reputation, and you know that I am no sluggard. Between us we should be able to take care of Meriden, should he appear. There will be rich rewards if we kill him.

"Why do they not send many, instead of one or two each time? Then we could be sure."

"They do not dare. That would be an act of war against Sarvon, and the Council is not ready for that yet. It might be disastrous. It all goes back to the great delicacy of the process, and that cave is the only really suitable place we can find for performing it, but it is in neutral territory. Sarvon would know and be suspicious if we took troops there. The Sarvonians would want only such an excuse to start war, and the Council does not want war until our scientists have perfected a new device for dealing death. Then we will crush Sarvon and be free to carry out our other plans, those plans that we are starting to carry out now, and which are always interrupted by Meriden. The Swordsman of Sarvon? He deserves that title!"

"It would seem cowardly for the two of us to attack him, were the nation's interests not at stake. And though it pains to admit it, one of us could not last two minutes against him."

"The question of cowardice does not enter into it. If he appears again, he must be killed."

The listener detached his device and re-entered his plane, smiling grimly. The parasite detached itself and shot silently upward, leveling out to dart ahead, racing for the distant cliffs. It left the larger plane behind as it hurtled through the clouds.

The little skycar maintained its headlong rush for almost two hours. Then it circled down to land upon the wide ledge half-way up the cliff-side, the ledge upon which the cave opened. The pilot knew the place, had landed there before, but he was careless and disaster fell upon him.

Perhaps the night *plus* the thick clouds was to blame. At any rate his searchlight did not disclose the jagged rocks on top of the cliff in time for him to avoid them. He crashed with terrific force on top of the cliff, not halfway down it.

Blood oozed from wounds on his thigh and his temple, but the bronze giant started to climb down the vertical cliff in spite of them. The night was black, but he could see the beam of light that showed where the illuminated cave was. He cursed at the pain of his wounds and redoubled his efforts, climbing downward through the pitch blackness. Four times he almost fell, only to save himself by luck and those great muscles. The triple scabbard with the three heavy swords was still at his waist.

He was still fifty feet or more above the cave entrance when he saw the large plane land easily on the ledge. As the two below got out of their airship, the giant scrambled recklessly down what remained of the cliff above the ledge, acquiring another wound—a cut on the left arm—from a jagged rock.

The two had entered the cave. The giant drew two of his swords and stepped into the entrance. The Venerian fights with two swords, always, and he carries a third in case he throws or loses one of the first two. Sword-throwing was never practiced to any extent on Earth, but the warriors of Venus could hurl their heavy, accurately balanced weapons with incredible accuracy and deadly results.

One of the two Corians seemed to have vanished utterly into thin air. The other turned and opposed the giant with a startled gasp of recognition.

"Meriden," he cried, as their swords met.

The Swordsman of Sarvon was grim. His wounds were hindering him. The battle was exhausting what remained of his strength after that fatiguing climb. He was laboring for breath.

He could see a form recumbent upon a bench. The one who was to be executed! Was the other Corian going to plunge a sword through the heart of the sleeper, while the first one kept him occupied? Meriden made a supreme effort and managed to pass his adversary at the entrance. Now the Sarvonian giant could back toward the sleeper and protect him. Still he could not see any trace of the second occupant of the plane. He noted subconsciously, while he was fighting, that the sleeper's head was encased in a helmet of leather and copper, from which wires led to a gigantic array of apparatus in the rear of the cave. Where was the second Corian?

The mysterious personage in question was hidden in a dark niche in the cave, concealed in shadow. The broad back of Meriden was toward him. The wounded giant was fighting for his life now. His breath was coming in gasps, and one of his adversary's swords had gashed his shoulder.

The hider selected the one of three swords that he knew to be the most perfectly balanced, and smiled as he lifted it slowly to hurl at the giant's back. He had the Swordsman of Sarvon at last!

CHAPTER IV

The Row of Black Books

THE body of Harrison Ives was still warm as the executive and the detective bent over it. There was no one in the room, and there was no entrance to it except the door by which they had entered. Huston ran to the window. It was bolted. The side of the building was sheer, and the street was hundreds of feet below. Suddenly Huston gasped, and the detective joined him at the window. It was late in the day, but there was still light.

A tube went through the wall close beside the window. An arrangement of lenses and prisms gave it the effect of a combination telescope and periscope. Looking into it, one could see plainly what was transpiring on the street below.

Huston saw their waiting taxi, and behind it another. A tall figure emerged from the building and was met by a slight, swarthy individual. With a start, Huston recognized the former as Laura Ives, that girl, sister of the scientist, who, though she was handicapped by her lack of good looks, was the possessor of a fascinating personality, Huston knew. There was something inconguously furtive about her bearing, and she was carrying a thick black volume. She talked for some seconds with the small man; they both entered his taxi, which moved away. Huston turned back toward the room, staring at a shelf high on the wall by the single door. On it was a row of heavy black books of the loose-leaf type. He counted them rapidly. There were only eleven. The twelfth was gone, and in it, he knew, were the careful notes of Harrison Ives, his mathematical researches, the results of his experiments, the details of his investigation of atomic power. Gone!

Burton Boyd had acted. He knew from the color-plan, what company the taxi belonged to, and he had been able to make out the individual number of the car.

His trained mind had secured those facts the second he had glanced through the tube. He picked up the phone, called his offices in Manhattan, and gave orders that all the bridges and vehicular tunnels be watched, and that the taxi, if found, should be trailed. He told his subordinate to ask the cooperation of the police, and in three minutes, thanks to the police headquarters broadcast to all the men on duty, there was a thick network of watchers all over Greater New York. Then, after he had finished these arrangements, he turned to his companion for explanation.

"It seems impossible that she could be guilty," said Huston. "She has always seemed to be perfectly devoted to her brother. She knew he was a genius, and she was interested in his work. She was no mean scientist herself. I've known her too long to believe that she is guilty. Something is wrong somewhere. I can't explain her actions."

"What was the book?" asked the detective.

The other shook his head hopelessly. "That secret of atomic power. Ives always kept the results of his experiments in bulky notebooks. Those eleven on the shelf contain all his earlier work. He didn't care for typing machines, but wrote everything out in his flawless, beautiful handwriting. Now the important one has been stolen, apparently by Laura Ives. Ives himself is killed under circumstances that make murder seem impossible, yet he certainly didn't die naturally. There's something wrong, somewhere, about the whole situation. It seems flatly impossible that anyone could have crushed Ives' skull with us outside in the corridor, and then have disappeared from this room, unless we take the theory of invisibility. Even then——"

"It may be that. I've seen too many scientific impossibilities become established facts to risk saying that invisibility is impossible in this age. There's nothing more to do here. There are no material clues. I'll arrange to have the body removed. The next thing to do is to locate Laura Ives. I hope some one spotted that taxi."

The two men descended in the elevator and went out to their own waiting cab. A short talk with the driver verified what they had seen through Ives' periscope. As they drove back to Manhattan, Huston asked, "Do you think it probable that your men have found the taxi?"

"There's no reason why they couldn't. We both saw the identification number, required by law, painted on top of the hood so as to be visible to the police in the traffic towers. It was 37R3, wasn't it?"

"Yes. It was plainly visible."

"Unless the driver covered it quickly, some one of my men or of the police would be sure to spot it. And if the police saw it covered they would immediately be suspicious."

Night was falling as the two men reached the detective's office. After several short conferences with some of his staff, Burton Boyd turned to Huston.

"No results yet. Would you mind phoning for those photostats of the Utilities Building plans? Also, see if you can get in touch with Eugene Chilton's secretary, those six clerks who were in the outer office, and that visitor. I think you said he was United Utilities' Hudson Bay District Manager. Have them come over here right after supper, if possible. Get a bite to eat yourself, old chap. We're not done yet tonight." And Boyd plunged into some routine work with renewed energy. The executive stood admiring his apparently tireless friend and then went to a phone on a near-by desk to make the necessary calls.

AN hour later the clerks, secretary, and manager arrived at the office of the detective. They voluntarily underwent a psychological examination, and the sensitive psychometers and delicate sphygmomanometers indicated that the men were innocent of any share in the death of Eugene Chilton. The psychomechanical evidence could not be taken as absolutely conclusive, but Burton Boyd knew that the scientific soul-machines were usually right, if competent psychologists interpreted the charts and records. Boyd's staff expert assured him that the evidence was entirely negative.

Later, in the conference-room, Boyd questioned them, though he learned nothing significant from clerks or secretary. Then he questioned the Manager of the Hudson Bay Power District.

"Mr. MacAndrews, will you please tell me the purpose of your intended conference with Mr. Chilton, the conference that never took place?"

"Certainly, but it will require a little explanation. It concerned one of the latest projects of United Utilities, one about which strict secrecy has been kept until yesterday, when we let the public know about it. You know that three years ago, unusual cosmic disturbances took place, and astronomers, due to the timely invention of the hypertelescope by Harrison Ives, were able to increase greatly our knowledge of the universe. I may say that Ives' work in optics is of incalculable value; in fact I believe it to be the only one of his scientific achievements that has any practical value."

Boyd smiled dryly. "Perhaps. The general consensus of opinion seems to be that Ives' work is totally impractical, but the more I hear about him the more I am inclined to think he wasn't such an impractical sort of scientist after all. But please continue Mr. MacAndrews."

"During the period of the cosmic disturbances I referred to, the thick, ever-present blanket of clouds that has always obscured the planet Venus and prevented astronomers from learning anything about the planet, was lifted for a considerable time, and with the hypertelescope observers were able to detect absolute proof of intelligent life upon the planet. As to the nature of this proof, I am not prepared to say anything, for I am no authority on the subject. If by any chance you should want to know about it, I refer you to Professor Reccardo di Bargi, who made the discoveries.

"You remember di Bargi's attempts to get into radio communication with the planet. In spite of the tremendous amounts of power he used, the attempts were failures.

"The professor was far from discouraged. He went, a couple of years ago, direct to Eugene Chilton and asked for the company's cooperation in financing and building a rocket spaceship. Twenty-second century mechanics and engineering are so far advanced that interplanetary travel is perfectly feasible from the purely engineering point of view, and twenty-second century physiological research has shown that it is possible for human beings to withstand the terrific acceleration and the weightless condition that would prevail in outer space. The professor wanted to build such a rocket and take it to Venus, the only planet in our system where living con-

ditions would be enough like ours to permit a man from Earth to exist there. The professor is obsessed with the tremendous idea of establishing communication somehow with that highly intelligent life which, as he is convinced, exists on Venus.

"Eugene Chilton helped him, in return for the exclusive rights to all mineral wealth discovered on, or imported from, the planet Venus, provided that such a process should prove feasible, and that the theoretical inhabitants of the planet would permit the removal or purchase of such minerals. United Utilities has covered the world, but there is still room for expansion in the universe, and Chilton had foresight enough to realize that sooner or later interplanetary commerce would be a fact.

"As Mr. Huston knows, Mr. Boyd, we have been constructing the rocket in the Hudson Bay District, near Fort Severn. It is under the supervision of Riccardo di Bargi and myself. The plans call for ordinary airplane propulsion as high as that will take the rocket, and from there on the motive power will be provided by the reaction or recoil from the explosion of liquid hydrogen, as in the several experimental rockets that have reached the moon in recent years. But early yesterday I received a radiophone call from Mr. Chilton asking me to come to New York along with the professor, but di Bargi didn't want to lose time on the rocket and so asked me to make the trip alone. I understood from Chilton that he wished to discuss with me the possibility of using intra-atomic power to propel the rocket, for it seems that United Utilities was on the point of acquiring the process from some inventor. That's all I know."

"Thank you. The inventor, by the way, was Harrison Ives. He has recently been killed in the same manner that Chilton was, and the description of the atomic power process is missing."

The district manager's eyes opened wide. At that moment the conference door opened, and one of Boyd's operatives stepped in. At a word from Boyd, he made his report. The others listened attentively.

"Operative Fisher and I spotted taxi 37R3 at Mineola, and followed it a mile. At a subway entrance it stopped and a little man, European, got out with a tall girl. She carried a black book. We followed them down the subway escalator and Fisher, I think, got close enough to hear what they were saying. I didn't. The girl gave the book to the little man, who immediately boarded a train bound for the flying field. Fisher managed to get on, too.

"I stuck near the girl. She took a train back to Manhattan, got off at Fifth Avenue, and walked to the Metropolitan Hotel. She may have been on to me, but I don't think so. She walked into a dark alley at the side and went around to the back of the hotel. I followed just in time to see something you won't believe, but I'll swear it's true. There wasn't much light at the rear, but I saw her plain enough. Boss, she stood there a moment and then walked into that hotel through the brick wall! She just seemed to melt into it. There was no other way she could have gotten out of that space behind the hotel, and I saw her go through that solid wall as if it was air."

"She would have had to pass you to get back out the alley?"

"Yes, and I know she didn't. I hung around for quite a while. I tell you I saw her go through the solid wall. I examined the wall myself. Solid brick and mortar. No trick to it. She went into it just as if it wasn't there. I don't see why, even. The hotel has several doors. She didn't want anyone to know she was in the place, I guess."

"All right. You're finished for today, Richards," said Boyd as he turned back toward the others. "I was wrong not to order immediate arrests on suspicion as soon as the taxi was spotted, though I thought that might have given us away to whoever it is behind this whole affair. I might mention that Richards is thoroughly reliable and that I see no reason to question his statements. Either that girl went through the brick wall, or else Richards is thoroughly convinced that she did, or he wouldn't say so. Just what——"

AT this moment Fisher arrived, eager to impart what he had learned. His story checked Richards' up to a certain point.

"——and we followed them into the subway. I got close enough to hear what they said. Mr. Boyd, I've been a detective for seven years and my memory is good. I can tell you word for word what they said, and I'm not mistaken—or lying either.

"It was the girl who did the talking. She said, 'Take this to the flying field and send it registered express to the Dornn brothers at Vienna. They have the meteorockets and will attend to sending it to the Hot Planet. Of course they will make copies, too.' It was the book she was talking about, because she gave it to him. I followed him to the field, and he had the book carefully boxed and sealed and sent it registered express to the Dornns in Vienna. I was standing next to him in the line at the express window and I saw every detail. I had a faked errand and he never noticed me.

"Then he did a fool thing, Mr. Boyd. He tried to cut across the landing field, instead of going around the walk to the subway station. I don't know why, unless he was in a terrific hurry or else was entirely unacquainted with the field. Some mechanics and guards shouted to him in warning, but they couldn't seem to make him hear. The field was brilliantly lighted, for it was getting late, but nevertheless he was killed by a monoplane which was landing. Either the pilot didn't see him in time, or else the pilot did see him and, losing his nerve, couldn't act in time. The propeller chewed up the little man just as the plane touched the earth, a few seconds after the pilot had cut off the power. Damned ugly accident.

"Now here's another queer thing. The pilot of that plane was Lee Chilton, the daredevil wing-walker. It's hard to believe. Young Chilton never took chances with anybody's life but his own, and it's impossible for that fellow to lose his nerve. The field was perfectly lighted. Chilton could have avoided the accident if anyone could. He should have seen the man, but he says that he didn't. That's all I can tell you."

"Chilton was returning from Europe?"

"Yes. By the Azores."

"Good. That's all, Fisher."

Boyd's face gave no outward sign of his feelings, but, experienced detective though he was, his voice could not help but betray some of his inner emotions. "Gentlemen," he stated slowly, "we're up against something big, and I think I'm beginning to see light. I'm not sure, or I'd tell you.

"Mr. MacAndrews, you heard the reports. Get back to Hudson Bay with Professor di Bargi and rush through the completion of that rocketship. Mr. Huston, here, is now acting head of United Utilities, and he will give you the fullest cooperation—money, men, materials. The atomic power secret is gone, so use your liquid hydrogen. With the money Mr. Huston will place at your disposal, double your staff of scientists and engineers and have them check and recheck every detail. Get a very strong guard of men you can trust and permit no unauthorized person to come within miles of the place. Watch out for spies, bombs, and above all, sabotage. If we have to go to Venus, we will. The rocket may be infinitely priceless. Keep this office advised constantly, and they will see that I am informed. The rest of you here understand that nothing you have heard is to be repeated outside, or even discussed between yourselves. Good evening. I should like to speak to Mr. Huston privately."

When the rest had left, the detective turned to his friend. "Bob, I'm going to Vienna. If I act quickly enough, I might even be able to intercept that book before it gets to the Dornns, but I doubt if I can. Robbing aerial express or aerial mails is just about impossible. If I got caught at it in Europe, with the present state of hard feelings toward all Americans, my captors would make things hot for me. If the Dornns get that secret, there is almost the certainty of war soon, and what chance have we got against Europe—Europe armed with atomic power?

"Europe wants war, and it is the Dornn trio that is behind it all.

"You heard that reference to the hot planet? That could only be Venus, and we know life exists there. The Dornns have something to do with Venus, and they intend to send the book——"

A whistling note sounded from the news-machine in the corner of the room. The whistle signified that an event of particular importance was being broadcast. Burton Boyd snapped on the sound and vision controls. As no image appeared on the screen of the set, it was evident that the event was not of a type that could be photographed or broadcast over the television system. The clear, precise, even voice of the unseen news-announcer filled the room.

"We regret deeply that we are obliged to announce to the people of the United States that Secretary of State Jones, who has done so much in these trying times to preserve peace, has been murdered by assailants unknown.

The Hon. Secretary has been stopping for several days at the Metropolitan Hotel in New York, where he occupied a suite on the ground floor. The doors and windows of his rooms were locked and barred, and no evidence of their having been disturbed can be found. The Secretary's trusted valet was sleeping in the room next to the Secretary's chamber, and states that he, the secretary, had retired early in the evening. It is the valet who has disclosed the death of Mr. Jones, whom he found a few minutes ago lying prone on the floor of his chamber, with the side of his head crushed in completely. We are informed that the Chief of Police has stated that a very heavy, blunt instrument, such as a sledge hammer, would be necessary to make such a wound. The police appear, at the moment, to be launched on their most baffling case in years."

CHAPTER V

Sarvon

LEE CHILTON regained consciousness as suddenly and as completely as he had lost it. His first perception was that something tight was around his head. It was a heavy helmet fastened on by a chin strap. Almost automatically he loosened it and removed the helmet. Then he saw that he was lying on a bench in a lighted cave, the back of which was filled with strange apparatus from which led a cable, made of several insulated wires twisted together, to the helmet he had just removed.

Now his attention was immediately attracted by what was taking place before him. A bronzed giant was battling, a heavy sword in each hand, with a slightly smaller adversary similarly armed. In a niche in the cave wall, plainly visible to Lee Chilton, though hidden from the fighters, was a third man, in the very act of lifting a sword to hurl at the giant's back.

It was cowardly, thought Lee, and of all things he despised cowardice the most. His mind and his muscles worked together; he leaped for the man in the niche. He was not in time to prevent the sword from being thrown, but he seized the man's shoulder at precisely the right second to deflect the course of the sword. It hurtled through the air for a short second, and embedded itself up to the hilt in the breast of the bronze giant's adversary.

Chilton felt himself hurled heavily to the floor. Livid with rage, the sword-thrower drew another shining steel sword from his triple scabbard and lunged toward Lee. Even as he did so, a thrown sword transfixed his heart. He fell backward, and Lee Chilton saw for the first time, on the hilt of the crimsoned sword, the head of a jaguar, wrought in steel and gold—the device of Meriden, the Swordsman of Sarvon.

It had all happened in a few seconds. The giant was dressing his wounds with the contents of a small pouch he carried slung over one shoulder. He addressed a few unintelligible words to Lee. The daredevil shrugged his shoulders and spread his hands in a way that showed plainly his lack of comprehension. The Swordsman smiled, disclosing strong white teeth and a red mouth in a face that was intelligent, friendly, even-featured, and honest. Lee smiled back in order to show his friendly intentions, and the Sarvonian extended his left hand. Lee Chilton took it, and thereby established a comradeship that did not need words.

For the first time the Earthman looked at himself. He was wearing a light tunic, a garment such as he had never seen before, and it suddenly dawned on him that his body was strange. He had been tall and slender, with that wiry strength that depends on the quality of muscles, not on their size. Now he was yet tall, but broad and heavy also, with big-boned smooth muscular arms that showed at a glance the terrific power of their possessor. He had been white, Nordic; he was still a white man, beyond all possibility of a doubt, but he was deeply tanned, as though he had spent years in the tropics. He did not understand it; neither did he understand the swordsmen, the cave, or any other detail of the circumstances in the midst of which he found himself. The last thing he remembered, he had been alone in his monoplane, high over the Atlantic.

Meriden had recovered his jaguar-hilted sword, and was nonchalantly wiping it on the tunic of the man he had slain. He sheathed it and motioned to Lee to follow him. They went out of the cave, and the Earthman saw that it opened on a broad ledge on the side of a mountain. The cliffs above were almost vertical. Those below were more so, in places overhanging. The heavy odor of a jungle, of decaying vegetation, came up to his nostrils from below. Over all were thick clouds. On the ledge was an airplane that resembled those that Lee was familiar with, and yet was different in many respects from any he had ever seen. He did not know it, but it was the plane of the two Corians who were lying dead in the cave.

Meriden seemed to be struck by a sudden thought. He turned and reentered the cave, and Lee soon heard the smashing of glass. Looking into the cavern, he saw the giant systematically wrecking all the apparatus in the cave. His bewilderment, his feeling of mystery, was stronger than ever, but the Earthman was not afraid; to the contrary he sensed that there was adventure ahead of him, and his brain was supernormally alert, tingling with anticipation.

The Sarvonian returned, carrying the scabbard and the three swords of one of his late antagonists. He gave them to Lee and showed him how to strap them around his waist.

Then they entered the plane. The Swordsman took the controls, and the skyship taxied off the broad ledge into the black night. They rose a thousand feet or more, and crossed the range of mountains. On the other side was more jungle, but the clouds seemed less dense. They flew on in silence for many moments, when suddenly Lee felt the other pulling at his arm. The giant pointed out through the window at the left, and Chilton gazed out at the blackness. At first he could distinguish nothing, but then he saw a space of darker blackness in the cloudy sky. Several stars were visible, and one of them shone with a splendor and brilliance that astonished the Earthman. Meriden pointed at Chilton, then at the brilliant body in the heavens, and held up three fingers. Then he pointed at himself, at the ground below, and held up two fingers.

REALIZATION came to Lee Chilton. He was on Venus, witnessing a rare phenomenon—a rift in the Hot Planet's cloud-blanket. The brilliant star was the earth. Then he remembered the meteor, its explosion, and the apparatus supported by the parachute. In some incredible manner, when he had donned that headgear in the cabin of his plane on earth, he had been overpowered and rendered unconscious by someone on Venus, who had interchanged identities with him. That much he understood. He was enough of a scientist to realize that there was nothing impractical about the process. The human brain is almost infinitely complex, but not infinitely so; it is an electro-chemico-psychological machine of great delicacy. Our memories, our ideas, our reasoning powers, perhaps even that we call soul, in the last ultimate analysis, are all matters of chemical changes, reaction; so if the changes could be produced artificially, cell for cell, the identity, the memory of the individual so treated would utterly change. That was what had been done. Chilton had seen come from Venus the meteorocket, and by chance he had discovered the appartus it contained. Then over the void of dozens of millions of miles of space, two identities, two beings, had changed bodies. Lee Chilton had come to the Hot Planet, the world where civilization and savagery were united in the great city-nations of Sarvon and Cor; but Lee Chilton would never have wakened to learn of the transfer had it not been for the giant swordsman who was called Meriden.

During the few minutes that the clear starlight lasted, Lee could make out the thick, green vegetation below. One place there was a rift in the trees, and a wide, sluggishly moving river was visible. For a short moment he saw some of the animal life of the Hot Planet. A great herd of a variety of wild, long-horned cattle was surrounded in the open space by the river by a snarling, wary pack of jaguar-like cats whose dimensions far exceeded the largest of terrestrial tigers. Miles farther on were two great lizards, drinking at the river.

Then far in the distance, myriads of lights appeared and rapidly came nearer. The colossal city of Sarvon towered out of the jungle. It was not a collection of steel structures, but rather one great unit, one great building of steel, thousands of feet tall, stretching miles in all directions, containing millions of men, women, and children. It had been centuries, in the building by this great city-nation, and it was built to endure for centuries. Its higher levels are often in the midst of great, wet clouds, and its foundations are sunk deep in the jungle mire. Lee Chilton was not astonished at his first sight of the city. His astonishment came later, gradually, as he came to know the place. The Venerian city of Sarvon is too big to understand all at once; a unified mass of steel that can be measured in cubic miles.

Meriden landed in a great open space on the highest level of the city. Other planes were standing around, and two were taking off. A group of five armed men met Meriden as he stepped out of the cabin. He spoke with them at length while Lee Chilton stood silently at his side, comprehending not a word. Finally they seemed to be satisfied, and turned to leave. The Swordsman of Sarvon turned to Chilton with a reassuring smile and motioned him to follow.

The group of five made their way to a small structure at one side of the wide expanse of steel; Meriden led the Earthman down a long ramp that led to a lower level, and stopped at the intersection of two wide corridors.

Each corridor seemed made for one way traffic only. One-half of the way was used by pedestrians only, and was crowded with Venerians, who wore, regardless of age or sex, the light tunic that was essentially dictated by the ever-present heat of the planet. Legs and arms were bare, and sandals, some ornately decorated with gold and jewels, completed the costume.

The other part of the corridors was used by three-wheeled vehicles with sedan-like bodies, approximating the terrestrial motorcar. Two of these drew up at the intersection at the same moment, and their occupants emerged, greeting the Sarvonian pleasantly.

The driver of one of the cars was a smiling tunic-clad girl, who held out her left hand almost shyly to the giant. She was slender, dark-eyed, bronzed, and erect, and she possessed that perfect symmetry that is so large a component of beauty. And as Meriden took her hand in his for a moment, Lee Chilton noticed the broad belt of finely tanned leather about her waist, and saw that it was fastened by a large buckle, upon which was a jaguar's head, skilfully wrought in steel and gold.

The girl's eyes met Lee's for a moment, and he was aware of something in his inner mind trying to rise to the level of consciousness—like something he had known long before, and knew he ought to recall, but could not quite remember. He was aware of the girl's beauty, but he was absorbed by the mystery that deepened every second he regarded her. Something was trying to manifest itself to Chilton's conscious brain, but this utmost concentration did not disclose that tantalizing fact. It was in his mind, but he did not know what it was.

The occupant of the other car was an older man than any Lee had noticed in the corridors. His skin was not so tanned as that of the others, and he was not a muscular individual. His eyes were bright and alert, and his forehead was very high. Chilton judged him to be a man of wisdom, a scientist; but he did not know that the man was the head of the aristocracy of scientists and builders, the supreme ruler of Sarvon. If Lee had known, he would have been puzzled as to the reason that such an individual should take the trouble to meet him and Meriden at a street corner.

Meriden had greeted him quietly and respectfully, and the other had issued a few instructions. Then the giant, with a friendly wave of his hand, had entered the girl's car with her, and the car had moved away. Chilton found himself alone with the scientist.

The latter first smiled solemnly to himself, and then quietly addressed Lee.

"Will you step into my automobile?" he said in English, chuckling at the effect his words produced upon the other.

"You speak English," gasped Lee.

"Yes. I like it better than any of the other earth-languages. It is the tongue you are accustomed to, is it not?"

"Yes. But I don't understand——"

"Let that wait, if you please. There are many things you do not understand now, but all necessary explanations will be made soon. If you will enter the car——"

Chilton hastened to obey, and the vehicle was soon threading its way through a maze of wide corridors, occasionally descending a long ramp to a lower level, but never going up. Lee became aware of a real respect and liking for this man, who spoke his own language, and seemed to be aware of all that had happened to the Earthman, and promising explanations.

"Meriden tells me that you saved his life in the mountain cave."

"I am glad to have helped him. While he was fighting one man, a coward attempted to throw a sword at his back. I do not know how you consider such practices here, but on my world such a thing would be despised."

"It is a dishonorable practice on this world also, my friend, but the thrower knew that in no other way would he conquer Meriden. He has no equal with the sword in all Venus."

"I do not doubt it. If I may ask, who is the girl who came to meet him? His sister?"

The elderly Sarvonian looked shrewdly at the young man, who had crossed the void from an alien world. After surveying him for a few moments, he replied pleasantly to the question.

"No, my young friend. She is the girl he loves, and whom he intends to make his wife before long. He has vanquished all of her other suitors."

CHAPTER VI

The Fight on Soixante-douze

BURTON BOYD snapped off the news-machine as the announcer's voice finished telling about the death of the Secretary of State. For a moment he remained lost in thought, then he turned to Huston. "Bob," he said, "there's a lot to be done here, with that killer at large, but my decision stands. I'm going to Europe tonight to try to intercept that black book before it gets to the Dorms, for that is the most important thing. They want war, and with that process in their possession, they can wipe out America in a day. I don't know how, in fact I don't even know that it's possible, but I'm going to rob the aerial express and get that book."

"You're taking a terrible chance."

"I know it. What time is it?"

"Ten forty-five."

"That means the aerial express left Mineola for Le Bourget just five minutes ago. I can't intercept it this side of Paris. There's no plane faster than an express plane, and I'm working outside the law."

"You can get to Paris before it does."

"Yes. The passenger-rocket makes the transatlantic trip in two hours; the express takes four and a half. But I can't catch the rocket. It leaves Halifax in five minutes. It's too late, Bob."

Huston picked up his friend's phone. "Give me Halifax," he said to the operator. "Connect me with AA-3-1000. Thanks."

While waiting the few seconds necessary for his connection, Huston turned again to the detective. "You forget," he said, "that the Rocket Transportation Company is one of United Utilities' many subsidiary corporations. . . . Hello. Mr. Dugan? This is Robert Huston on the wire from New York. Hold that London rocket until a Mr. Burton Boyd arrives and presents credentials. Yes, you heard me. . . . Cable and make immediate arrangements for a fast plane to meet him at London and take him to Le Bourget, Paris. Yes, you heard me, Dugan, get busy."

BURTON BOYD beat the express to Paris by ten minutes, thanks to a fast plane to Halifax, to the rocket, and to another fast plane to Le Bourget. He realized fully that he was playing the most desperate game of his career. If he were caught robbing the express, the European authorities would see to it that he paid the penalty, particularly since he was an American, but Burton Boyd was determined that the Dorums should never have that all-important black notebook. He knew only too well that there had been only one successful express robbery in thirty years, that all others who had tried it were dead; but it has been stated before that Burton Boyd never quit. He was not excited as he stepped upon the Paris field; in fact, he was very calm.

He walked casually past the row of waiting express-planes reading the destination of each, and its number, painted in French text on the fuselage and wings of each. *Soixante-dix, Leningrad, Soixante onze, Berlin. Soixante-douze, Vienne.* Seventy-two, bound for *Vienne!* It was two-thirty in the morning, and the brilliantly lighted field was almost deserted, except for armed guards and the expert mechanics, who were tuning up the engines of the waiting planes.

The express plane from Mineola landed in a cloud of dust. Boyd knew that the express consignment had been sorted on the trip over the Atlantic, and that in a very few seconds it would be distributed among the waiting planes. He had few seconds to lose. When the eyes of the guards were on the landing of the plane from Mineola, Boyd hurled a small object he had been holding in his hand, as far as he could in the direction of *Soixante-dix*, the plane bound for Leningrad. The object was a repeating torpedo, a totally harmless little piece of fireworks, but when it hit the ground it started a long series of staccato explosions, whose sound resembled that of a machine-gun. It created a diversion at the critical moment, and the guards, drawing their guns, ran in the direction of the sound.

Burton Boyd, a pistol in each hand, had entered the open door of the control-room of *Soixante-douze*, whose pilot was leaning back in his chair, smoking a cigaret, snatching a few seconds of relaxation before the flight to Vienna. He saw Boyd and made a mad attempt to reach the alarm switch of his radio apparatus, but a bullet from Boyd's silent automatic put the radio out of commission.

Then Boyd pulled the trigger of his other weapon. It fired no projectile, but a long greenish flash seemed to reach out and touch the pilot, who crumpled in his seat. Boyd had no intention of killing a clean-cut, innocent pilot, who was only performing his duty; the pilot was not permanently hurt, but it would be hours before he regained consciousness. Working with the utmost haste, Boyd removed his own coat and put on the leather jacket of the pilot, donning, as well, the face-concealing leather helmet and goggles. There was a small washroom at the rear of the pilot's compartment, and Boyd placed the unconscious pilot there, slamming the door and regaining the pilot's seat just as a man on a motorcycle drew up beside the open door and handed in a paper. Boyd took it. It was, he knew, the pilot's final instructions and last minute weather information. Other weather information was continually being broadcast and received by the planes in flight.

The next second the motor truck with the express for Vienna pulled alongside and unloaded its contents into the plane. The clerk and the guard entered the mail and express compartment and closed their door. Boyd closed his, snapped on the light in his compartment and read the orders. They were in French, but Boyd was acquainted with seven languages, so they presented no difficulty to him. Noticing on his wrist-watch that it was precisely the minute stated for the take-off, according to the orders, Boyd put the heavy plane into flight. So far, so good!

For ten minutes he followed the beacons below, running over in his mind the events of the past few hours. Only a little more than twelve hours ago had Eugene Chilton met his death, then Ives, the scientist shortly after. Then, by means of that optical device in Ives' laboratory, Laura Ives had been spotted with the black book, and had been followed. The book had been sent to Europe, and Laura Ives had been seen to walk into and through a solid brick wall at the hotel, and Secretary Jones had been the third to have his skull crushed in. Burton Boyd wondered who would be next.

Rousing himself from his semi-reverie, Boyd decided that it was time to act. That all-important black book was on board the plane now. He locked the controls of the plane and stepped to the washroom, removed the pilot's emergency seat-pack parachute, and donned it himself. Then, stealthily, he edged open the door into the other compartment, the one that held the guard and the clerk.

The guard suspected nothing, expected no trouble. His back was toward Boyd.

The plane was flying steadily through the blackness, controls locked.

Summoning all his strength, Boyd leaped at the broad back, tripped the man, and hurled him to the floor, where he lay as if stunned. The gigantic clerk turned around and stared at the intruder with an utterly stupid expression on his sheep-like face. Seeing the guns in Boyd's hands, he slowly raised his own hands above his head. The guard was not stunned, but was faking. He slowly reached for his own revolver and raised it to fire. At the critical moment, Boyd noted his movement and dogged. The explosive bullet missed him by a yard and struck the lock of the outside door of the compartment. It demolished the lock and the door swung open.

Meanwhile Boyd's spark-gun had spoken and the prone guard sank back again, genuinely unconscious this time. "Mon Dieu," muttered the clerk, apparently terrified. But Sheep-face was not quite such an imbecile as he looked. It was he who wrecked Boyd's plans.

With a movement incredibly fast for one of his bulk, he seized both of the detective's wrists, twisting each of them inward in such a manner that Boyd had to drop the guns. The two locked in hand to hand combat as the plane hurtled blindly on its way. They soon fell to the floor, the clerk on top, and rolled diagonally toward the open door. For a few seconds they struggled on the edge, then rolled away from it. With a supreme effort, the clerk broke loose and seized the guard's gun.

Boyd saved his life by rolling through the open door. A stream of explosive bullets missed him by inches. For ten seconds he fell before pulling the ripcord of his parachute. By that time the plane was so far away that no stray bullet could hit the great billowing silken chute, and the clerk had enough on his hands with the pilot unconscious and the radio smashed.

Boyd was only human, but he was a detective, and his defeat rankled in his heart as he sank downward toward the soil of eastern France. He cursed bitterly. He had failed.

CHAPTER VII
Explications

LEE CHILTON reclined comfortably in a wide-backed chair. He was in a spacious chamber whose walls, floor, and ceiling were of steel—the chamber of Xavian, supreme ruler of Sarvon, who was reclining in another chair. The elderly Venerian addressed him earnestly, and Chilton listened with the utmost attention.

"You know, of course, that you are not in your own body, Lee Chilton. The body you possess now was formerly the property of a Venus-man, an inhabitant of the city-nation of Cor, which is about as far on the other side of that range of mountains as our city of Sarvon is from this side. Between Sarvon and the mountains, and between the mountains and Cor, are impenetrable jungles. Sarvon and Cor are the only two civilizations on this planet.

"To explain what has happened to you and why it has happened, as well as the danger which is menacing your world now, it will be necessary to make a brief excursion into history, incredibly ancient history.

"You have perhaps been wondering at the fact that human beings, precisely like those on earth, exist also on Venus. Your scientists have said, and they are right, that there is only one chance out of hundreds of billions that life should develop in the same form on two different worlds. Let me tell you, then, that the human race now existing, both on your world and mine, had a common origin. We are the same race, not parallel ones. If the latter were true, you could not exist in an alien body.

"Intelligent life, by which I mean humanity, developed on Earth before Venus was habitable. For centuries the civilization of Yatlan flourished, only to be buried forever beneath the waves. The rest of your world was just emerging from savagery when the cataclysm occurred, and in a very few old myths and legends, I am told, you have records of Yatlan, which you call Atlantis.

"But Yatlan was wiped out, and the world went on as if that great race had never existed. Before the disaster, colonies had been made on Venus, and ages ago an interplanetary commerce existed. The only survivors of the nation of Yatlan were those who were on Venus when Yatlan perished. The last space-flyer returning from Venus was lost some place in the universe, and the little group isolated on this world degenerated rapidly until they were no better than savages.

"But the human race has an unquenchable tendency to climb, always. Through the centuries we have regained some of the ancient culture and science, developed and increased on this world as you have on yours. Long ago we divided, and a fierce rivalry sprang up between the nations of Sarvon and Cor.

"In some ways Sarvon is superior. Honor, fair play, and courage are inbred in every Sarvonian—more than in the Corians. There is less crime here and there. But the city of Cor has much more scientific knowledge than we have.

"There have been many wars between us, though at present a sort of truce exists. Some years ago they suggested to us that we join forces, and conquer the Earth—your world. Sarvon refused.

"When our ancestors first came to Venus, they swore by all they held sacred that there would never be war between the two worlds. Even if we wanted to conquer Earth, we Sarvonians felt ourselves bound by honor to observe the ancient pledge of our forefathers. The Corians have no such honors. We refused to join forces with them in their evilly ambitious plan to conquer your rich planet, so they went ahead alone, armed with their science, which is greater than that of Sarvon, and greater than that of the Earth.

"They sent meteorockets to the Earth, containing the receiving ends of machines they possessed, which were somewhat like the radio, but through which they could interchange identities with anyone on Earth who put on the headgear by chance or out of curiosity. Meanwhile they started to build great rocket spaceships to carry them to the earth. But they are cunning, my friend, cunning as the long-tailed rodent you call the rat. They knew that they could not conquer the hordes on earth, so they formed a clever plan. They would interchange identities with a few earthmen, said some of their leaders, and use every possible means to hurl the world into war. Each of your wars has been more terrible than the previous one, and they knew that if they could instigate another war among you, the world would literally bleed to death. Your great cities would perish, your world would be utterly disorganized. You would be decimated, perhaps annihilated. Scientific methods of warfare would eliminate ninety-nine per cent of you, and the world would be easy to conquer. It would not have a chance against the extra-terrestrial invaders. Such is the plan of Cor.

"Perhaps you do not understand fully Sarvonian honor. Our forefathers swore that there should never be war between the worlds, and we feel bound to prevent Cor from breaking that bond. We are mobilizing our forces, and in twenty days, twenty Venus-days, we shall declare war on Cor, though the outcome is doubtful. We have more men, but they have more science. At least, we are doing all that we can to keep the oath that the pioneers swore to follow."

The old Venerian paused a moment to judge the effect of his words upon his listener. Then he continued:

"The first attempts the Corians made at interchanging identities were not successful. Cor, like Sarvon, is an immense structure of steel, and the metal in some way interfered with their process, which had to operate across millions of miles. So they searched for a place which had no steel near by, and located that cave in the range of mountains between Sarvon and Cor. The range is in neutral territory, and it contains no ferrous ores. It was an ideal location, and there was no iron or steel near it, but to take many men there, would be to invite war with Sarvon, which they do not want while they are carrying out their other plans, so they took only a few, and set up their apparatus there in the cave, sent more meteorockets to the earth, and were successful in transferring identities with Earthmen.

"But their actions were not unknown to us. The giant Meriden, who saved you and was saved by you, had been playing a desperate lone game as a spy in Cor. The Corian process could not take a Corian identity to Earth without at the same time transferring the terrestrial identity to the body of the Corian, and the plan was to kill the body as soon as the transfer was completed, to prevent the Earth man from living on Venus. Meriden the Swordsman of Sarvon, arrived at the cave, not in time to prevent the first three transfers from being made, but in time to prevent the execution of the three Earthmen in Corian bodies. He saved them and brought them here. They are living in Sarvon now. Meriden also destroyed the apparatus in the cave, which delayed the Corians until they could construct a new set.

"They did so immediately, and this time Meriden managed to prevent the transfer. They made another, and Meriden foiled them once more. In the next attempt, they were completely successful. Meriden was too late. Then they again managed to make a transfer, but Meriden saved the Earth-identity and brought it to Sarvon in its Corian body. And so on. Sometimes Meriden prevented the transfer, and sometimes he saved the Earthman after the transfer was completed; that is how you were saved. Meriden has been able to do this because they never dare to send many Corians to the neutral cave at one time. As I said, they do not want a war

with us on their hands while they are carrying out their plans of conquering the earth. On the other hand, we are preparing for war, and will be ready in twenty days. Meriden is to be in command.

"Our scientists have been trying to penetrate the Corian secrets, to duplicate this machine for interchanging the chemico-physiological structure of the brain cells in two different human bodies, but they have not been successful. However, while trying this, *our* scientists have developed a brain-machine hardly less wonderful, a machine whereby knowledge, even though of an involved and complex kind, can be imparted with incredible rapidity and precision to another person. That is how I learned the English language, and several other Earth-tongues, with such polished fluency. I am going to have you treated with this machine so that you may speak and understand Sarvonian easily. Also, I shall teach you the Corian tongue, which is a corrupted patois of the pure Venerian as spoken in Sarvon.

"You will then be able to pass as a Venerian of either city quite easily.

"You learned English, through your machine, from some Earthman whom Meriden saved?"

"Exactly. The first three Meriden saved were three brothers, Aloysius, Albert, and William Dornn. They are very fine men, and are in this city now."

Xavian, the ruler of Sarvon, did not fail to note the expression of astonishment that appeared on the face of his listener.

"You have heard of the Dornn brothers before?" he inquired.

"Yes. They saved the life of my father's brother, Eugene Chilton, who is the head of the world's largest and most powerful corporation. They saved him when his air-yacht went down in flames in the Pacific Ocean, north of Hawaii. He had quarreled with me, had no other heir, and had disinherited me and willed all his property to them. It includes fifty-one per cent of the stock of United Utilities.

"It must have been shortly after they saved him that they found a Corian meteorocket, and one of them was led by fatal curiosity to don the headgear. After one was transferred, it was easy for the Corian in his body to influence the others to put on the helmet. If your uncle should die now, all of his money would go to three Corians, would it not?"

"Yes," said the Earthman. "And with the power of his money, it would be easy to lead the world into war. War . . . with the diabolical Corians chuckling as we kill ourselves off and waiting to overrun our depopulated Earth. Damned clever, these Corians.

"But they haven't won yet.

"There's no war on Earth now, at least."

For Lee Chilton did not know that his uncle had already been killed, his skull crushed in as if by a sledge-hammer; that the three who were in the Dornn brothers' bodies on earth had already filed their claim to United Utilities; and that in Vienna those same three would soon receive the secret of atomic disintegration, in that black notebook Harrison Ives had written before he was killed—his skull also crushed in. Intra-atomic power!

It could have been a blessing to mankind, yet as a weapon of scientific warfare, it could be more terrible than any other the brain of man could produce, or even imagine.

CHAPTER VIII

Izanne

LEE CHILTON was the guest of Xavian that night, and while he was asleep, Xavian had a heavy cabinet moved near his couch. Delicate disks were clamped over his ears, and small electrodes were applied to the base of his skull and to his forehead. He slept for thirteen hours, but when he awoke, he knew perfectly the languages of Venus. He could speak, read, or write them as well as any Venerian.

He was served with fruit, roasted meat, and tasty condiments. Then Xavian appeared and invited him to another chamber. There the girl was waiting—the bronzed, beautiful girl, who wore the device of Meriden at her waist. Lee Chilton found himself wishing that she didn't. She smiled winningly as Xavian introduced the Earthman.

Meriden entered, his triplicate scabbard that held the three jaguar-hilted swords still at his side. He bowed gravely to Xavian, took the girl's left hand in his for a moment, then repeated the ceremony with Lee.

It was Meriden who spoke first when they were all seated. He used the Sarvonian language.

"I learned while I was on my way to the cave, where we met Lee Chilton, that we Sarvonians are in error in one particular concerning Cor. We have been thinking that they feared fighting with us, while they were trying to conquer the earth, and therefore are being careful not to send more than a few men to the cave at a time, to avoid provoking us to war. As a matter of fact, they want war with us, too, but they are merely avoiding it temporarily to give their scientists time to perfect a new device by which they hope to destroy us easily. The conversation I overheard seemed to indicate that this weapon was near completion. We intend to strike in nineteen days, but we may be too late. Cannot the mobilization be speeded, so that we may strike in time to prevent their scientists from using a new weapon?"

"Have you any knowledge of the nature of this weapon?" asked Xavian.

"No. And not knowing it, we will be unprepared to withstand it, whatever it is. Therefore I say that we should strike at once, and not be caught by surprise."

The old Sarvonian ruler smiled knowingly. "You are young, Meriden, and eager for battle. There is truth in what you say. But we must not be rash or foolish. Perhaps, if I order that preparations be rushed, we can be ready in seventeen or even sixteen days, but that is the best we can do. You must be content to let me, an older man, make the decisions. It would be suicide to declare war in our present unprepared state. Glorious, perhaps, but nevertheless suicide. Your valor will lose nothing by the waiting, Swordsman of Sarvon."

Meriden did not protest Xavian's decision. The ruler of Sarvon was usually right, but right or wrong, his word was law.

"Would it not be possible," suggested Lee Chilton, "for clever and daring spies to penetrate the city of Cor and learn about this weapon?"

Xavian considered. "Possible, but not probable," he replied.

Meriden jumped at the chance. "Nevertheless, with your permission, my ruler, I am going to make the attempt. Earthman, I know your valor. Will you join me?"

The daredevil from the Third Planet needed no urging. "I'm with you," said Lee Chilton.

Xavian looked at them and made his decision, perhaps against his better judgment. "You may make the attempt," he said. "May luck be with you, and take care, Meriden. You are perhaps becoming a trifle too well known in Cor, and I should not like to be forced to choose another leader for our army. Return in sixteen days, if you are alive."

The giant swordsman was voluble in his thanks to his ruler for the permission to undertake the mission. Lee Chilton was tense with the anticipation of adventure. Then, for a second, his eyes met those of the bronze-skinned girl, and he sobered. He didn't want to die yet. He wanted to come back to Sarvon.

"I am going, too," said the girl.

"No," said Meriden. "Stay here, Izanne. We shall be facing danger, perhaps death."

"You are not my master, Swordsman. I am not afraid of danger, and I shall go."

Meriden looked imploringly at Xavian, who came to his aid. "I shall ask you to stay in Sarvon, Izanne," said the ruler. "The work you are doing is very important. Remember, I am keeping your secret for you —perhaps for that reason you owe me obedience."

Izanne said nothing, but her beautiful face betrayed her disappointment.

An electric buzzer, concealed in the arm of Xavian's great chair, sounded insistently. Xavian threw a tiny switch, connecting a loud-speaker telephone mounted in the wall of the room.

"This is the Third Laboratory," said a low voice. "Scientist Grantolon requests the presence of Albert Dornn, an Earthman, and the girl Izanne, if Xavian can spare them at this time."

"Albert Dornn is not here," stated Xavian. "Izanne will shortly arrive at the Third Laboratory."

The girl extended her left hand gravely to each of the three men and left the chamber.

Lee Chilton became aware once more of a sense of mystery surrounding the girl. Something about her was trying to force itself into his conscious mind, but, try as he would, he could not quite make out what it was.

CHAPTER IX

Discoveries

ROBERT HUSTON, acting head of United Utilities, looked up in surprise as Burton Boyd entered his office with a heavy brief case. "Were you successful?" he inquired.

"No. The book got to Vienna. I narrowly escaped apprehension by the European police, but I managed to get back here about seven hours ago. Since then I've been busy, and I can clear up some of the points that have been worrying us. The first thing I did was to go through Harrison Ives' other eleven notebooks, the ones that contained the results of his previous work. They contained quite a lot. That man was a genius. I've brought a few pages from the notebooks with me.

"The first notebook has to do with his work in the science of optics, and gives all the dope about his hyper-telescope, which di Bargi used in 2177 when he discovered that there was life on Venus. It also mentions that little periscopic arrangement he had in his laboratory, the thing that showed us Laura Ives with the twelfth notebook.

"The next three are about his investigations of the rare earth elements, and their effects upon iron and steel alloyed with them. I waded through an enormous amount of the stuff just to be thorough.

"Then I came across something really important. I'm going to read you a little from one of the later books. This, plus that set of photostats you gave me, clears up many details about those murders. I have the pages here. Listen to this for a minute:

"'. . . and we find that the atom is composed of two things, the proton, and the electron, in varying numbers. The number of electrons and protons in an atom determines what element it is. Electrons resolve about a central nucleus as planets about a sun, at great distances when the size of the electrons and nuclei is considered. If it is true that an electron has only about 1/1800 or less of the mass of a proton or if it is true that electrons and protons are nothing but charges of electricity, as some assert, then the thinking physicist soon reaches the conclusion that there is no such thing as "matter," and that even the heavy elements, such as platinum or uranium, are not really dense at all, but that there is an immense percentage of open space between the electrons and protons that make up matter—as much open space, in proportion, as there is in our universe not occupied by suns and planets.

"'We know that when sugar, for instance, dissolves in water, the molecules of sugar go between those of the water, and the bulk of the solution is not proportionately increased, though its density is.

"'I see no fundamental reason why the law of impenetrability of matter cannot be refuted, no fundamental reason why two things could not occupy the same space at the same time. A piece of iron may be supposedly occupying a certain space, but the electrons and protons that make up that iron only take an infinitesimal amount of that space. Why could not a brick occupy the same space at the same time, its electrons and protons between those of the iron? It is not so impossible as it first seems. I feel that it is not impossible, in the light of twenty-second century science, for a man to walk through a stone wall. It is only a matter of finding the right method, a matter of detail. Radio was never impossible, but it was thousands of years before men found the *method* of sending messages through the ether.'

"That's all I'm going to read you. From there on, he gets technical. I don't understand it, and I don't think you could, Bob. The dates in the notebook showed that he was working on this thing for fifteen months."

"Does he mention success?"

"You bet he does. He found the method. I don't know how, but he found it. You understand now that my man Richards wasn't lying when he stated that Laura Ives walked right through the brick wall of the hotel. Ives walked through walls himself, experimentally, when he had perfected the thing. It is electrical in nature, but requires a surprisingly weak current, which can be supplied by a small portable battery. The device itself only occupies about thirty-six cubic inches, and can be easily carried, strapped around the waist. In operation, it produces a field of influence, which can be directed either horizontally or vertically by the user, which it surrounds. The person surrounded by the field can walk directly through any obstacle without feeling it, if

the field is directed horizontally. If directed vertically, the person would sink through the floor, and, unless it was shut off quickly, would continue to sink into the earth, from which he could never emerge.

"The process is dangerous if the machine is left in operation for more than three or four minutes, as there is danger of a permanent 'dematerialization' of the subject. It is also accompanied, Ives stated in the notebook, by a transient feeling of extreme nausea. However, there seem to be no permanent bad effects, if the user does not permit the device to function more than three minutes, which is ample time to walk through a wall.

"Ives said at the end of his notebook that he did not see how such a device could benefit the world. On the contrary he thought it would make crime easier, and in his opinion there was enough crime already, so he decided not to disclose the invention, retaining only one model for himself. Now, of course, it's gone, and Laura Ives is running wild, an agent of the Dornn brothers."

"She entered Chilton's office through the wall?"

"Certainly," replied the detective. "The office next to Chilton's was vacant, and those photostats show nothing but a thin wall between them. The layout of the hundredth floor of the Utilities Building is ideal for her purpose. She entered his office, killed him, and left it without being seen by anyone in the main office. In the same way she killed Harrison Ives, probably the scientific genius of the century, while we were in the hall outside. She just vanished through a wall as we entered the only door. We know how she entered the hotel to kill Secretary Jones, but I dare say no one in the hotel saw her and she left no trace. It's only by luck that Richards saw her, though Richards is a clever shadow if there ever was one. She probably never knew he was on her trail. But he couldn't follow her into the wall, and he had no knowledge of her purpose, so he returned to report. It wasn't until several minutes had passed that we learned about Jones' death. The only remaining problem is what weapon she used to crush in the skulls so horribly. Meanwhile, we've completely lost track of her. She may still be here, or she may be in China, for all I know, but so far there have been no additional killings."

"What is the motive, Burt?"

"War, obviously. She is connected with the Dornns, we know positively, and the Dornns want war. She killed her own brother to keep him from disclosing the secret of atomic power to anyone, stealing that twelfth notebook and sending it to Vienna. Damn that sheep-faced clerk! She killed Eugene Chilton, the richest man in the world, so that the Dornns could inherit United Utilities. The great wealth and the power of your enormous corporation would be of a great aid in inciting the world to war. Finally, she killed Jones, whose diplomacy was tending to prevent war and recreate a good international feeling."

"Yes. You must be right. The Dornns have already demanded that I turn the corporation over to their New York representatives. They sent me a radiogram to that effect as soon as I informed the public of Chilton's death. I told the newspaper and radio men three or four hours ago. Then I managed to locate Lee Chilton at his apartment and asked him to come over for an interview. He'll be here in ten minutes. I think he'll join us in fighting the Dornns. He is the logical heir, but that freak will——"

Robert Huston did not know that the real Lee Chilton was millions of miles away, on the Hot Planet, or that a Venerian from Cor occupied his body now. Huston did not know that the one who was to visit him was an ally of the sinister three in Vienna. He went blindly ahead, fighting in the dark.

The Venerian had found from the Earthman's baggage that he, the Venerian, was occupying the body of Lee Chilton. Arriving at New York, he had looked up Lee's residence in the city directory, entering the apartment just in time to receive Huston's call.

When he arrived at the latter's office, Huston and Boyd explained to him as much as they knew of the situation, while the Corian could hardly suppress a satisfied smile. Then he astounded the executive and the investigator by his reply.

"No," he said calmly, "I will not be a party to any legal battle to keep the Dornn brothers from obtaining their rightful property. I advise that you turn the control of this organization over at once to its new owners. Good afternoon, gentlemen."

"But you don't understand, Mr. Chilton. The Dornns are steadily leading the world into war——"

"I understand perfectly. Good afternoon."

Once out of their sight he neglected the English he had learned by machine before leaving Cor, and relapsed into his native tongue. "Success is near," he remarked to himself. "This silly planet will soon cut its own throat, led on by the triumvirate at Vienna, and we shall leave the steaming atmosphere of Venus and come here where life is pleasant, back to the planet the Ancient Ones left, ages ago. *Yo maku e yo pento!*"

Robert Huston and Burton Boyd sat staring incredibly at each other as their visitor left.

"Just what do you make of that?" inquired Huston.

Boyd never answered. A bell rang thrice, paused, rang thrice again, calling Huston's attention to the receiving apparatus of a code cable system used by the corporation. Anyone tapping United Utilities' private wires would have been able to learn nothing whatever from the scrambled messages the wires carried, but the decoder in Huston's office put the message into intelligible form. The words formed themselves rapidly on a moving paper tape as the two men read:

"Ft Severn *K* Hudsonbay District K8 22 2180 K Urgent *KKKK* Liquid Hydrogen Plant Exploded K Bomb Ignited Hydrogen K Macandrews Killed K Other Plants Damaged K Rocket Itself Damaged K Men Disorganized and Leaving KKKK Riccardo Di Bargi"

CHAPTER X

Through the Clouds

"SHALL we leave for Cor at once?" asked Lee Chilton of Meriden as they left Xavian's chamber.

"Yes," said the swordsman. "I should have liked to see Izanne again before leaving, but it would delay us too long to go to the Third Laboratory. We shall use the airplane I brought you here in—it is a Corian plane, and will not arouse suspicion when we land there. Let us go at once to the upper levels."

He hailed one of the passing automobile-like vehicles which was for hire, and they rode through the maze of

passages in the enormous structure of steel that was Sarvon. As they reached the higher levels, they were surrounded by wet fog; at the highest level, they could hardly see three feet ahead of themselves, but Meriden was well-acquainted with his city and quite used to the fog. After they had dismissed the vehicle, he led the earthman easily to the station where the five men, who had met them when they landed the day before, were on duty. Meriden produced a written order from Xavian and after several formalities, was permitted to depart with Lee in the Corian plane. Before he left, he obtained a set of plain swords from one of the men, leaving his own in the officer's custody. The jaguar-hilted swords of Meriden were known in Cor; they would have betrayed him. His face was also known, but to few.

Lee Chilton had the swords Meriden had given him the previous day. He put his hand on the hilt of one of them and smiled uneasily as he recalled the little bit of fencing he had done in his college days. What chance would the fifth best fencer at Yale have against the trained swordsmen of the Hot Planet? Lee was glad he was with Meriden. Perhaps, he reflected, he was a fool to undertake such an errand, even in the company of the giant Sarvonian, but Lee Chilton had never hesitated to risk his life on the Earth, and it was not in his gloriously impractical soul to start being cautious just at the time when a scientific miracle had transferred him to a world where adventure awaited on every hand.

As Meriden piloted the plane through the fog, apparently with no difficulty whatsoever, Lee recognized that Venus was hot indeed. Though the clouds were ever present, the sun was so near that Lee could easily understand why Venerians were so deeply tanned. The thick clouds of Venus could not keep out the ultra-violet rays of the sun—twenty-five million miles closer to Venus was the sun than to the Earth. The Earthman, however, did not seem to be inconvenienced by the heat. The body he was occupying was Venerian, acclimatized to the warmth and wetness of the jungle-covered planet.

Meriden was flying blind, guided by instruments only. The flight to Cor took more than four hours, and during that time the giant told the Earthman many things about the two rival city-nations, the custom and habits of the people of Venus, and other topics. A little of that conversation will be set down here.

"You remember, do you not," said Meriden, "the machine in the cave?—the instrument I destroyed?"

"The one that transferred my brain, so to speak, to this body? Yes, I remember the instrument, though I did not have much opportunity to examine it."

"Thirty days ago I managed to capture one of those instruments and take it to Sarvon. Our scientists, under Grantolon and Izanne, are trying to find out how it works, but they are not meeting success as yet. They think that some vital part may be missing, and they were disappointed when they heard that I had destroyed the one that transferred you here. They wanted another one to compare with the one they have. Of course, I did not know. My purpose was only to delay any further transfers if possible, because now the Corians will have to make another before they can attempt another transfer. I know now that they are trying desperately to find some other location as suitable as that cave. I have been able to completely prevent several transfers, though in some cases I have met with only partial success. I did not prevent your transfer but I saved you. Several hours before your transfer, I visited the cave and no one was there. The scientist must have come in a plane, shortly after I left, with the apparatus. The rocket had been sent to earth several days before. You found it by chance, and your identity was transferred to his body. Those who should have been with him, the executioners, were late. Therefore you are now alive."

"I understand most of this from Xavian. Izanne is your sweetheart?"

Meriden hesitated a moment. "I love her," he stated, "and I have reason to think she cares for me. But she is not in my class. She is of the aristocracy, and I an an ordinary swordsman. True, I am in the confidence of the rulers. I have more education than most soldiers, but there is yet a great span between us. It has been thought for a long time that the upper classes have been wrong in keeping their knowledge and science to themselves, that all should be educated. But that is not my affair. Izanne is my friend. I have hopes, but I know that it would be a sacrifice for her to be my wife. At least, I have no rivals. I killed quite a few of them and the rest withdrew suddenly and have not been seen lately."

"You fight to the death for a girl on this planet?"

"Certainly. You seem amazed. But on Earth, I suppose, there are many girls. Our scientists cannot explain it, but for the last several centuries there has been an increasing preponderance of boys born on this planet. Marriageable girls are scarce; we fight for our mates here. And even then," he concluded, "we cannot be sure. I, a warrior, could not carry off with impunity a girl of the ruling classes. If she were a girl of the warrior breed, she would be mine, because I conquered those who might claim her. But all I have now is the chance that she might care enough to voluntarily marry outside of her class. I do not know—sometimes I think—well, she wears my symbol at her belt."

"Were those you killed of the aristocracy?"

"No. They were aspiring warriors, like myself. They fought fiercely, and died like men. I would not kill an aristocrat. If I have rivals in that class, I am not acquainted with them."

"If you kill warriors with such ease, what is the aversion to killing an aristocrat?"

"You do not understand completely, Lee. I kill only in fair, honorable fight. All must die sometime, and a warrior's death is no disgrace in this world. A soldier dies with his sword in his hand. But the scientists are not trained with the sword. It would be cowardly to kill a man unskilled with the sword, and a true Sarvonian is not a coward. Besides, if I did such a thing there would be punishment. The scientific class are our rulers; they possess weapons against which no one could stand. They could kill me at a great distance, and with certainty, if I killed an aristocrat. There is no revolt or conflict between the classes here. They rule us well and fairly. There is no bad feeling. Xavian, supreme in Sarvon, is my respected friend. It is the scientists who provide us with food and dwellings, with the means of living, and in return, we protect them from the hordes of Cor.

"To kill an aristocrat would be revolt and cowardice. To kill one of my own class in a fair duel is my own private affair; a matter of honor. The best lives.

"If Izanne wishes to marry one of the ruling class, I

will not touch him, nor ever again see her; but no warrior shall have her, unless I am the one. It is not uncommon for a girl to marry outside her class. It is not a disgrace. But, Earthman, I am sincere in my love for her. I do not want to make her unhappy as the mate of a warrior. If she wants an aristocrat for a husband, I shall not speak a word, yet if she did want one, I do not think she would wear my steel and golden jaguar at her waist."

The giant's idealism impressed Lee Chilton, but he had little time to reflect, or even to reply. Down through the mist the plane circled, and landed upon the highest level of the great steel structure, whose dimensions were measured in miles, whose teeming millions of inhabitants hated Sarvon and planned to overrun the Earth, whose scientists had accomplished the miracle of transferring two beings, two identities, across the void of airless space—the great steel structure that was Cor, a nation, yet concentrated within a city.

Meriden brought the plane skilfully to rest, showing no lights. The fog was thick, but the giant knew the alien city well. He was not lost, but had picked an unfrequented place to land. The two left the plane, and the swordsman led the way through the fog, one hand on the hilt of a sword. They moved in silence for a distance that seemed to be miles. Then Meriden spoke.

"We are lucky, Lee. We managed to pass the guard without being detected. Before us is a ramp leading to the lower levels, and we can make our way toward the laboratories to see if we can find out what the Corians are planning for us. Walk calmly through the crowds, and do not forget to use the Corian tongue if you want to say anything. I do not think we will be challenged."

The warm, foggy mist was thinner now, and Lee saw that they were near to an entrance that led down below. Ten feet to the left was a sheer edge of steel; beyond it was nothing but space, a drop of hundreds of feet. In a moment's glance around him, as the fog lifted, the Earthman saw the plan of the city. It was built in the form of a square, with four edges, a continuous, high structure. The interior of the square was also built up, but was not so high as the outer portions. The two spies were on one of the four sides, looking out over the interior section. Far across they could see dimly the other built-up outer edge of the stupendous structure; below them was the highest level of the inner section. Tiny figures and diminutive vehicles moved around below. The city was active, alive.

There were many cables stretching from side to side of the city, over the lower section. Others slanted down from the top of the great outer wall to points below. Lee did not know their purpose but he knew that they must be very strong in order to support their own weight, strung across the immense city with no supports except at the ends.

In reality they were the antennae, the projecting end of a radio-power device that could make it impossible for any plane to exist in the air above Cor. Meriden knew this. Almost a decade earlier, the Sarvonians had tried to conquer Cor by a surprise attack from above, and had met with no success. A similar device at Sarvon kept the balance of power and prevented air raids from Cor. At a moment's notice either city could make the air above it an electric hell in which no one could live, and no remote-control plane could be operated.

As the two stood for half a minute looking at the lower part of the city, they became conscious of approaching footsteps. They turned and saw three armed men approaching. Three more came out of the opening leading to the lower levels. Meriden realized that they had not passed the guard without detection, but the guard had sent for reenforcements before attacking. Two of his swords came out of his triplicate scabbard; Lee drew two of his, and the six approaching did the same with theirs.

"Surrender. You are known, Sarvonians," called one.

For answer, Meriden hurled one of his heavy swords with all the force in his body. It accounted for one of the six men, and five thrown swords answered the giant's defiance. Meriden knew that at the beginning of Venerian battles each warrior usually hurled his third sword, and the Sarvonian was expecting the five thrown weapons. He stepped aside, and three of them passed him harmlessly, though very near. He fended off another with the swords in his hands, and the fifth, aimed at Lee Chilton, missed its mark. Four of the swords went over the edge; Meriden sent the other one back, but the warrior for whom it was intended sidestepped. As the five closed in, driving Meriden and Lee back to the edge, five more came up the ramp. They did not throw their swords for fear of hitting their comrades, but they ran to their aid.

After thirty seconds of fighting, Lee Chilton knew that he was no match for one Corian, let alone five or six. The two heavy sabers were not at all like the foils he was acquainted with; he fought blunderingly, by instinct, but the immense strength of his body helped him. Meriden had accounted for three men when Lee acquired his first wound, a trivial wound on one shoulder. His adversary stepped back and rushed at him to finish him, but Lee Chilton ducked and tripped the man. Perhaps this method of fighting was not ethical, but it was effective against odds. The warriors hurtled over the edge, and from then on the others were wary about rushing him.

Meriden was in his element now; his two swords were red. At advantageous moments, the giant would hurl a sword and stoop to take one from one of his fallen adversaries. More often than not he eliminated a Corian by this method, while the swords thrown at him usually went over the edge, or else were stopped by his clever parrying of his own. No shields are used on Venus, but the Venerian's two swords are not only weapons of offense, but also of defense.

Realizing immediately that Chilton was no swordsman, Meriden had put himself between the Earthman and the enemy, and Lee Chilton learned why Meriden was called the best swordfighter on Venus. Also, while watching his giant friend, he resolved that he would learn the Venerian art of throwing the sword.

HE had few seconds to rest, however. A warrior circled around Meriden and attacked Lee, who threw one of his swords on the spur of the moment. He was not successful. The warrior fended it off easily. Lee took the offensive, made a rush at the fellow, slashing wildly. His strength and desperation counteracted his lack of skill. Surprised and driven back, his opponent went down before him. A sudden primitive joy of battle surged through Lee Chilton; he found that he

could really use the swords to some advantage, and he pressed forward to aid Meriden.

Five of the eleven opponents were left, and suddenly one of them recognized Meriden, calling out his name. The others backed away. They knew the giant's reputation, and had just witnessed a proof of his prowess. One of them ran toward the downward-leading ramp to summon more men. The other four kept their distance. Lee Chilton glanced around him and the daredevil in his soul showed him a way of temporary escape, at least; escape before the reenforcements would arrive and make the situation hopeless. Even Meriden was not superhuman. Lee told his friend to follow his example, sheathed his swords, rapidly removed the belt that encircled his waist and supported the scabbard, ran to the edge of the steel, and strapped the belt around one of the great cables that slanted downward to the level of the inner section of the city, holding the belt with one hand. Meriden understood immediately. Watching the guards, he backed toward the edge. Lee reached up to the giant's waist with his free hand and removed Meriden's belt also, strapping it around the cable as rapidly as he could, while Meriden stood in front of him ready to fight any who opposed.

The four guards were frantic. They realized what was happening, but they did not care to attack Meriden again without reenforcements. They had seen too much of his sword play, and his reputation was too great. As a score of men came up the ramp, Lee seized his belt firmly in both clenched fists and went over the edge, sliding with terrific speed down the cable. The four guards saw their help coming and leaped to stop Meriden, but he had slid the two swords remaining to him in their sheaths on the belt, had seized it and slid down the slanting cable. As he did so, a shower of swords came after him, but failed to reach him. One of the guards put a small instrument to his mouth and blew.

It was a supersound whistle. It produced a tone so high-pitched that the human ear did not hear it. In the guard stations below, it affected an instrument tuned to frequencies higher than the ear detects, notes above audibility, and the instrument in turn actuated an alarm signal. It had been in this method that the first guard, detecting the two from Sarvon, had whistled for help without betraying his presence to them.

Like several others, the cable down which they slid with terrific acceleration led to a small round structure in the center of the space below, and was anchored in its wall. Lee crashed against the wall with great force, though he had swung his sandal-shod feet in front of him to take up some of the shock. Meriden smashed into him a few seconds later. Neither was seriously hurt, but both were out of breath. Unfastening the belts from around the cable as rapidly as possible, they prepared to fight again.

Of course, they had been seen coming down the cable, and the supersound whistle had warned all the guards of the lower level. Meriden took command. "This way," he shouted to Lee, and threw open the door of the round structure, entering and slashing down the one man who appeared inside. Slamming the door, he went to a hole in the floor through which a ladder led to the level below. Down this they clambered, to find themselves at a junction of two corridors. No one seemed to be in sight, but they heard pursuers entering the circular room above. Meriden went a short distance down one of the corridors and pressed a hidden catch in the wall. A section of the wall swung inward, and they stepped through, Meriden pushing the hidden door shut.

The swordsman smiled. "We are in the midst of the laboratories," he said. "The reason those corridors were deserted is that storerooms comprise all of this section of Cor. Here they store the supplies of their various laboratories. This room we are in is secret; known only to some of the scientists. I have hidden here several times before. It is rather dangerous, in a way to hide in this room. In those cabinets you see at the rear, are dozens of fragile glass bulbs containing cultures of many kinds of bacilli—it is a storeroom of disease and death."

Meriden said all this in a whisper, and for minute after minute they continued to hear searchers in the corridor outside. All the storerooms were being searched except the secret one. The scientists who knew of its existence, did not think it possible that the refugees should be in there, yet a month before, Meriden, spying in Cor, had seen one of those same scientists entering the room, and had remembered. Meriden knew many things about the city of Cor, and to this knowledge the two owed their temporary safety. After two hours, that seemed like twenty years, they decided to venture out. If they could only once reach the traffic corridors and mingle with the crowds, there would be small chance of their discovery. Among the teeming millions of the great structure's inhabitants, they would be practically secure, and could take their time about planning the task they had set themselves.

They had heard no sound for almost an hour. Meriden located the spring that caused the door to open, and they stepped out, swords ready. There was no one in sight. The giant shoved the door shut and led the way down one of the corridors.

The corridor made an abrupt, right-angle turn. Around the bend were a dozen guards. One of them caught sight of Lee as he looked around the corner. The whistle went to the guard's lips, notifying all of the guards within a radius of a mile. The group made a rush for the two. Lee, looking back the way they had come, saw another group approaching. There was no retreat. They were trapped in the corner of the corridor. The Earthman began fending off thrown swords with his own blades, Meriden easily sidestepped them, picking up one now and then to send back with all the strength of his magnificent body. They heard the war-cry, or threat, of the Corians—"*Yo maku e yo pento*"—"We come and we kill."

The guards closed in as Meriden hurled back the last sword that had fallen within his reach. Fortunately, only a few at a time could oppose them in the corner. Meriden fought superbly, outdoing himself. Lee Chilton found himself opposed, for the first time, against a really good swordsman. His adversary was not a common soldier, but one who had had long experience, a giant warrior second only to Meriden the Sarvonian. The man drove him back rapidly to the wall and would have finished him, had not a thrown sword penetrated the Corian's lungs. Lee glanced at Meriden, a few feet away, and saw that the giant was using only one sword now, fighting desperately his crowding enemies. Lee Chilton realized this. The Swordsman of Sarvon had saved Lee Chilton's life by sacrificing one of the two

swords left to him. Meriden was fighting against odds with only one sword—overwhelming odds.

A warrior took the place of the slain giant, and again Lee Chilton was opposed by one who could well be called a champion.

CHAPTER XII

Fu-Zhse Decides

A SILVERY monoplane landed at the airdrome near Vienna. A heavy limousine drove up to it, and a party of men left the plane and entered the car. One of these men was Howard Fu-Zhse; the others were his bodyguard and servants.

Fu-Zhse was small and slender, a Sino-Japanese who had been educated in the western world. He was dictator of millions of people and thousands of square miles. He ruled the entire yellow race. His father had been Chinese and his mother Japanese. His predecessors had cemented friendly relations between China and Japan and Fu-Zhse had gained the respect and love of both great nations, combining them in the nominal republic of United Mongolia, of which he was in reality the absolute ruler. Perhaps no other man, in 2180, had so much power, as an individual, as had Howard Fu-Zhse.

The limousine took his party to the mansion of the Dornn brothers, just outside of the city, and a few minutes later he was being greeted by the triumvirate of Corians who were on the earth for the purpose of wrecking its civilization and wiping out its peoples. Yet, at the same second, millions of miles away, the real Dornn brothers were showing Grontolon, the Sarvonian scientist, the principles of firearms and explosives, weapons unknown to Venus.

The Oriental and the three at Vienna dispensed with several formalities and took seats around a table in the immense drawing room. Fu-Zhse was the first to speak.

"I understand," he intonated precisely, "that you wish to discuss with me the project of making war upon United America?"

He who occupied Alfred Dornn's body was the spokesman for the three. "Yes. Am I correct in assuming that you have a particular reason for wanting war?"

"Yes. It is a racial matter. I am of the yellow race, and the yellow race is crowded. We are naturally more prolific than Caucasians. We must have territory so that our people can reach the desired state of culture and prosperity. If we join with Confederated Europe, we shall demand one-half of the territory conquered—one-half of the western hemisphere. There is no use wasting words. United Mongolia holds the balance of power."

"Then, under those terms, you would join us if Europe should declare war upon America."

"Under those terms, I shall do so."

"Consider it agreed. We shall not worry about formalities at this time. That can be taken care of in the course of regular diplomatic correspondence. I and my brothers are in control of European politics at present, and we intend to declare war within a month. How many men can you mobilize at that time?"

"Between three and four millions, adequately equipped, fifty to sixty-five thousand airplanes, and a large number of battleships. Many more at later dates."

After half an hour's discussion of details, Fu-Zhse and his retinue left. One of the three turned to the spokesman. "It will be so overwhelmingly easy to crush America with the Mongolian's aid, and with unlimited atomic power, that we shall not really be accomplishing our purpose of decimating this world. Is it not so?"

"But that is not all," was the reply. "When America is eliminated, we shall have Europe refuse to carry out its part of the agreement. We shall claim all of the territory for Europe, excluding Orientals from conquered America. Fu-Zhse is a hard man. This will lead to another struggle, Europe against Asia, that will eliminate much more of the population, for in that case the opposing forces will be more evenly matched. It is not one war I plan, but two."

"I see."

"But do not be too sure that we will have that atomic power process. I did not say anything to Fu-Zhse because I was not sure. True, we received the book, but that inventor, Harrison Ives, had written the whole thing in code."

"But we hired the greatest expert on ciphers, offering him an enormous amount if he could penetrate it——"

"He will be here shortly to report. In fact, the servant is showing him in now."

The person who was ushered in was of the intellectual type, his keen eyes and high forehead proclaiming the highly-trained scientific mind. He was carrying the twelfth black book that had been the property of Harrison Ives.

"You were successful, sir, with the deciphering?"

"No, Mr. Dornn, we were not. The writings in this book are not any transposition or substitution cipher in any language known. So much I can state positively. There is so much of the cipher that any ordinary code could be detected. The solving of cryptograms is an exact science, and very complex codes can be solved by applying certain mathematical principles to them. But, gentlemen, the writing in this book, if it is a code at all, is not any code, or code-system, known. All codes are not decipherable. There are mathematical methods, such as, for instance, the employment of three dimensional key-charts to encode four or more letters at one time, combined with the roulette-code principle, which are absolutely unsolvable by anyone not in the secret. The original key-chart would have to be procured, and even then it would be a long and tedious process to decode unless the exact mathematical processes used by the coder were known to the solver.

"This document may be in that type of code. If so, neither I nor any other mathematician could solve it for you unless we possessed the key. There are dozens of other possible methods of encoding a message so that it will be undecipherable. The originator of this document, whoever he was, was a mathematician and scientist, was he not?"

"Yes. You mean to say that in spite of the fact that we offered to you one million American dollars for the solution to this thing, you are not able to do it?"

"We are not able to do it. I did not work alone. Experts on every language have tried it. Of course, I have retained photographic copies and shall continue to devote time to it, but I return the original now with the statement that there is hardly one chance in a million that it could be solved without the key. There are combinations—if you were a mathematician you could understand—that show right away that the thing is not a

cipher solvable by ordinary means. Nevertheless we have tried everything, and shall keep on trying, though in fairness to you, my employers, I must state that we are not expecting success."

"Very well, Mr. Ecclestone. I shall keep the manuscript. If you solve the cipher, from your copy, our offer of one million dollars still holds good. We have reason to believe—as we told you before—that the document contains a new scientific process of great value. The inventor, unfortunately, died before he made his discoveries known."

"So you told me, Mr. Dornn. Good afternoon."

When Ecclestone had left, the three looked at each other with dismay. One of them spoke.

"There is one person," he said, "who can solve that code, and that one is on Venus. You understand me?"

Yes. We shall send the book to the Hot Planet."

THE quintimotored monoplane UU-7, flagship of the United Utilities airfleet, roared northward over Canadian snows toward Fort Severn in the Hudson Bay District. Two grim men occupied its luxurious cabin, and a trusted pilot was at the controls. The UU-7 flashed through the heavens at better than four hundred per, making a straight line for the northern city.

Three red lights flashed simultaneously on a panel in the cabin. Burton Boyd picked up a phone. "Yes?" he said.

"Mr. Boyd? This is Richards, at the Manhattan office. We just received a code message from C-3. Shall I read it to you?"

"No. Someone may be listening. Scramble it. I'll get it off the tape."

"O. K., Mr. Boyd."

Boyd made several adjustments on the radio receiver. Through the air in a mess of mixed frequencies, came the message from New York. Paper tape slid along before the eyes of Robert Huston and Burton Boyd.

"KKKK? KKKK? KKKK?"

Boyd touched the keyboard of a typewriter-like machine before him. "KKKK," he sent back.

The paper tape suddenly became intelligible.

"KKKK Message Follows KKKK Vienna 8 23 2180 K Obtained Original of Ives Notebook Also Photographic Copies K Substituted Fake in Original Cover and Returned to Dornns K Fake Carefully Done K Resembles Original But Means Nothing K Have Not Yet Solved Code KKKK Ecclestone"

"We're getting results," said Burton Boyd.

End of Part I

Atoms

Atoms, I have heard it said,
In a very learned way,
Are such complicated things!
Specks of worlds with restless wings.

But a world, I should think,
Is larger than a bobolink;
Yet there is not any eye
One can see an atom by.

As grains that fill the desert sands,
Atoms dwell in all that stands;
And there are, we're told so plain,
A million million in a grain.

Yet each speck, however small,
Could you picture it at all,
Is as stately, every one,
As the earth and as the sun.

One would say, a star, a leaf,
An eye in tears, a heart in grief,
Came from matter unrelated;
Yet these are atoms congregated.

And when I heard that in days gone by,
From atoms rose both earth and sky,
And each of the hosts and all of me,
I knew that atoms imps must be.

MAX KAUFMAN

The Last Evolution

By John W. Campbell, Jr.

Author of "The Black Star Passes," "Invaders from the Infinite," etc.

IT must be the dream of countless numbers to reach the acme of evolution—which, quite likely, would bring with it nearly everlasting life and remarkable progress—but how many, we wonder, would be willing to forego their human weaknesses to attain the highest state as it is vividly portrayed by our young author, marvelous as such a degree of evolution unquestionably is?

Illustrated by MOREY

I AM the last of my type existing today in all the Solar System. I, too, am the last existing who, in memory, sees the struggle for this System, and in memory I am still close to the Center of Rulers, for mine was the ruling type then. But I will pass soon, and with me will pass the last of my kind, a poor inefficient type, but yet the creators of those who are now, and will be, long after I pass forever.

So I am setting down my record on the mentatype.

* * *

It was 2538 years After the Year of the Son of Man. For six centuries mankind had been developing machines. The Ear-apparatus was discovered as early as seven hundred years before. The Eye came later, the Brain came much later. But by 2500, the machines had been developed to think, and act and work with perfect independence. Man lived on the products of the machine, and the machines lived to themselves very happily, and contentedly. Machines are designed to help and coöperate. It was easy to do the simple duties they needed to do that men might live well. And men had created them. Most of mankind were quite useless, for they lived in a world where no productive work was necessary. But games, athletic contests, adventure—these were the things they sought for their pleasure. Some of the poorer types of man gave themselves up wholly to pleasure and idleness—and to emotions. But man was a sturdy race, which had fought for existence through a million years, and the training of a million years does not slough quickly from any form of life, so their energies were bent to mock battles now, since real ones no longer existed.

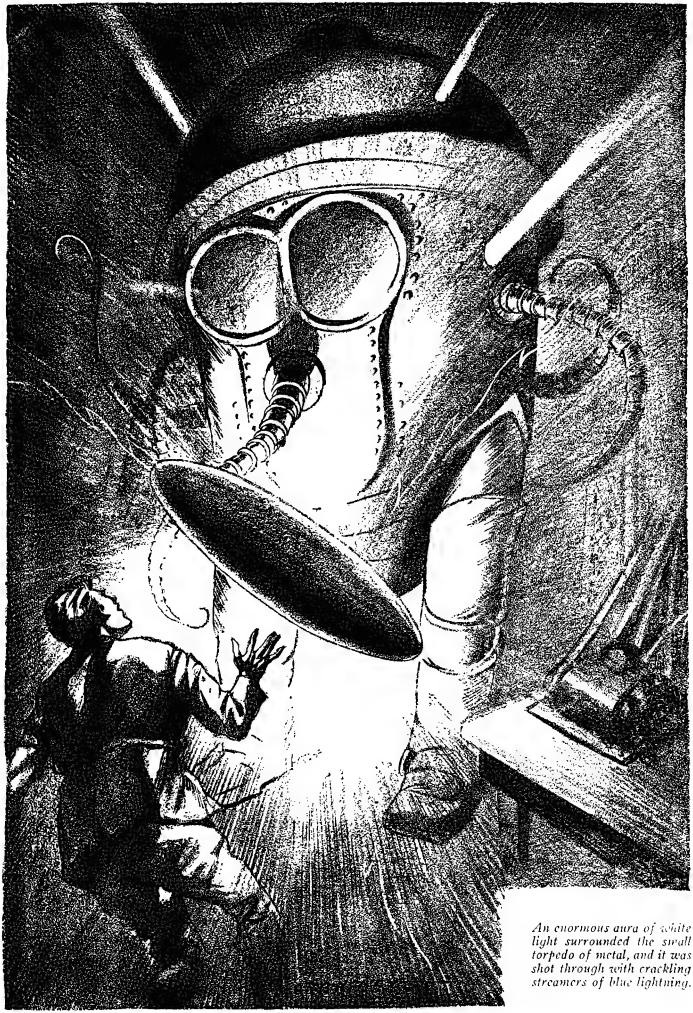
Up to the year 2100, the numbers of mankind had increased rapidly and continuously, but from that time on, there was a steady decrease. By 2500, their number was a scant two millions, out of a population that once totaled many hundreds of millions, and was close to ten billions in 2100.

Some few of these remaining two millions devoted themselves to the adventure of discovery and exploration of places unseen, of other worlds and other planets. But fewer still devoted themselves to the highest adventure, the unseen places of the mind. Machines—with their irrefutable logic, their cold preciseness of figures, their tireless, utterly exact observation, their absolute knowledge of mathematics—they could elaborate any idea, however simple its beginning, and reach the conclusion. From any three facts they even then could have built in mind all the Universe. Machines had imagination of the ideal sort. They had the ability to construct a necessary future result from a present fact. But Man had imagination of a different kind, theirs was the illogical, brilliant imagination that sees the future result vaguely, without knowing the why, nor the how, an imagination that outstrips the machine in its preciseness. Man might reach the conclusion more swiftly, but the machine always reached the conclusion eventually, and it was always the correct conclusion. By leaps and bounds man advanced. By steady, irresistible steps the machine marched forward.

Together, man and the machine were striding through science irresistibly.

Then came the Outsiders. Whence they came, neither machine nor man ever learned, save only that they came from beyond the outermost planet, from some other sun. Sirius—Alpha Centauri—perhaps! First a thin scoutline of a hundred great ships, mighty torpedoes of the void a thousand kilads* in length, they came.

* Kilad—unit introduced by the machines. Based on the duodecimal system, similarly introduced, as more logical, and more readily used. Thus we would have said 1728 Kilads, about ½ mile.



An enormous aura of white light surrounded the small torpedo of metal, and it was shot through with crackling streamers of blue lightning.

And one machine returning from Mars to Earth was instrumental in its first discovery. The transport-machine's brain ceased to radiate its sensations, and the control in old Chicago knew immediately that some unperceived body had destroyed it. An investigation machine was instantly dispatched from Diemos, and it maintained an acceleration of one thousand units*. They sighted ten huge ships, one of which was already grappling the smaller transport-machine. The entire foresection had been blasted away.

The investigation machine, scarcely three inches in diameter, crept into the shattered hull and investigated. It was quickly evident that the damage was caused by a fusing ray.

Strange-life-forms were crawling about the ship, protected by flexible, transparent suits. Their bodies were short, and squat, four limbed and evidently powerful. They, like insects, were equipped with a thick, durable exoskeleton, horny, brownish coating that covered arms and legs and head. Their eyes projected slightly, protected by horny protruding walls—eyes that were capable of movement in every direction—and there were three of them, set at equal distances apart.

The tiny investigation machine hurled itself violently at one of the beings, crashing against the transparent covering, flexing it, and striking the being inside with terrific force. Hurled from his position, he fell end over end across the weightless ship, but despite the blow, he was not hurt.

The investigator passed to the power room ahead of the Outsiders, who were anxiously trying to learn the reason for their companion's plight.

Directed by the Center of Rulers, the investigator sought the power room, and relayed the control signals from the Ruler's brains. The ship-brain had been destroyed, but the controls were still readily workable. Quickly they were shot home, and the enormous plungers shut. A combination was arranged so that the machine could not withstand it; the last plunger snapped shut. Instantly the vast energies stored for operating the ship were released, and the entire machine, as well as the investigator and the Outsiders, were destroyed. A second investigator, which had started when the plan was decided on, had now arrived. The Outsider's ship nearest the transport-machine had been badly damaged, and the investigator entered the broken side.

THE scenes were, of course, remembered by the memory-minds back on Earth tuned with that of the investigator. The investigator flashed down corridors, searching quickly for the apparatus room. It was soon seen that with them the machine was practically unintelligent, very few machines of even slight intelligence being used.

Then it became evident by the excited action of the men of the ship, that the presence of the investigator had been detected. Perhaps it was the control impulses, or the signal impulses it emitted. They searched for the tiny bit of metal and crystal for some time before they found it. And in the mean time it was plain that the power these Outsiders used was not, as was ours of the time, the power of blasting atoms, but the greater power of disintegrating matter. The findings of this tiny investigating machine were very important.

Finally they succeeded in locating the investigator, and one of the Outsiders appeared, armed with a peculiar projector. A bluish beam snapped out, and the tiny machine went blank.

The fleet was surrounded by thousands of the tiny machines by this time, and the Outsiders were badly confused by their presence, as it became difficult to locate them in the confusion of signal impulses. However, they started at once for Earth.

The science-investigators had been present toward the last, and I am there now, in memory with my two friends, long since departed. They were the greatest human science-investigators—Roal, 25374 and Trest, 35429. Roal had quickly assured us that these Outsiders had come for invasion. There had been no wars on the planets before that time in the direct memory of the machines, and it was difficult that these who were conceived and built for coöperation, helpfulness utterly dependent on coöperation, unable to exist independently as were humans, that these life-forms should care to destroy, merely that they might possess. It would have been easier to divide the works and the products. But—life alone can understand life, so Roal was believed.

From investigations, machines were prepared that were capable of producing considerable destruction. Torpedoes, being our principal weapon, were equipped with such atomic explosives as had been developed for blasting, a highly effective induction-heat ray developed for furnaces being installed in some small machines made for the purpose in the few hours we had before the enemy reached Earth.

In common with all life-forms, they were unable to withstand any acceleration above the very meager earth-acceleration. A range of perhaps four units was their limit, and it took several hours to reach the planet.

I still believe the reception was a warm one. Our machines met them beyond the orbit of Luna, and the directed torpedoes sailed at the hundred great ships. They were thrown aside by a magnetic field surrounding the ship, but were redirected instantly, and continued to approach. However, some beams reached out, and destroyed them by instant volatilization. But, they attacked in such numbers that fully half the fleet was destroyed by their explosions before the induction beam fleet arrived. These beams were, to our amazement, quite useless, being instantly absorbed by a force-screen, and the remaining ships sailed on undisturbed, our torpedoes being exhausted. Several investigator machines sent out for the purpose soon discovered the secret of the force-screen, and while being destroyed, they were able to send back signals up to the moment of complete annihilation.

A few investigators thrown into the heat beam of the enemy reported it identical with ours, explaining why they had been prepared for this form of attack.

Signals were being radiated from the remaining fifty, along a beam. Several investigators were sent along these beams, speeding back at great acceleration.

Then the enemy reached Earth. Instantly they settled over the Colorado settlement, the Sahara colony, and the Gobi colony. Enormous, diffused beams were set to work, and we saw, through the machine-screens, that all humans within these ranges were being killed instantly by the faintly greenish beams. Despite the fact that any life-form killed normally can be revived, unless affected by dissolution common to living tissue, these could not be brought to life again. The important cell

* One unit was equal to one earth-gravity.

communication channels—nerves—had been literally burned out. The complicated system of nerves, called the brain, situated in the uppermost extremity of the human life-form, had been utterly destroyed.

Every form of life, microscopic, even sub-microscopic, was annihilated. Trees, grass, every living thing was gone from that territory. Only the machines remained, for they, working entirely without the vital chemical forces necessary to life, were uninjured. But neither plant nor animal was left.

The pale green rays swept on.

In an hour, three more colonies of humans had been destroyed.

Then the torpedoes that the machines were turning out again, came into action. Almost desperately the machines drove them at the Outsiders in defense of their masters and creators, Mankind.

The last of the Outsiders was down, the last ship a crumpled wreck.

Now the machines began to study them. And never could humans have studied them as the machines did. Scores of great transports arrived, carrying swiftly the slower moving science-investigators. From them came the machine-investigators, and human investigators. Tiny investigator spheres wormed their way where none others could reach, and silently the science investigators watched. Hour after hour they sat watching the flashing, changing screens, calling each other's attention to this, or that.

In an incredibly short time the bodies of the Outsiders began to decay, and the Humans were forced to demand their removal. The machines were unaffected by them, but the rapid change told them why it was that so thorough an execution was necessary. The foreign bacteria were already at work on totally unresisting tissue.

It was Roal who sent the first thoughts among the gathered men.

"It is evident," he began, "that the machines must defend man. Man is defenseless, he is destroyed by these beams, while the machines are unharmed, uninterrupted. Life—cruel life—has shown its tendencies. They have come here to take over these planets, and have started out with the first, natural moves of any invading life-form. They are destroying the life, the intelligent life particularly, that is here now." He gave vent to that little chuckle which is the human sign of amusement and pleasure. "They are destroying the intelligent life—and leaving untouched that which is necessarily their deadliest enemy—the machines.

"You—machines—are far more intelligent than we even now, and capable of changing overnight, capable of infinite adaptation to circumstance; you live as readily on Pluto as on Mercury or Earth. Any place is a home-world to you. You can adapt yourselves to any condition. And—most dangerous to them—you can do it instantly. You are their most deadly enemies, and they don't realize it. They have no intelligent machines; probably they can conceive of none. When you attack them, they merely say 'The life-form of Earth is sending out controlled machines. We will find good machines we can use.' They do not conceive that those machines which they hope to use are attacking them.

"Attack—therefore!

"We can readily solve the hidden secret of their powerful force-screen."

He was interrupted. One of the newest science machines was speaking. "The secret of the force-screen is simple." A small ray-machine, which had landed near, rose into the air at the command of the scientist-machine, X-5638 it was, and trained upon it the deadly induction beam. Already, within his parts, X-5638 had constructed the defensive apparatus, for the ray fell harmless from his screen.

"Very good," said Roal softly. "It is done, and therein lies their danger. Already it is done.

"Man is a poor thing, unable to change himself in a period of less than thousands of years. Already you have changed yourself. I noticed your weaving tentacles, and your force-beams. You transmuted elements of soil for it?"

"Correct," replied X-5638.

"But still we are helpless. We have not the power to combat their machines. They use the Ultimate Energy, known to exist for six hundred years, and still untapped by us. Our screens can not be so powerful, our beams so effective. What of that?" asked Roal.

"Their generators were automatically destroyed with the capture of the ship," replied X-6349," as you know. We know nothing of their system."

"Then we must find it for ourselves," replied Trest.

"The life-beams?" asked Kahsh-256,799, one of the Man-rulers.

"They affect chemical action, retarding it greatly in exo-thermic actions, speeding greatly endo-thermic actions," answered X-6621, the greatest of the chemist-investigators. "The system we do not know. Their minds cannot be read, they cannot be restored to life, so we cannot learn from them."

"Man is doomed, if these beams cannot be stopped," said C-R-21, present chief of the machine Rulers, in the vibrationally correct, emotionless tones of all the race of machines. "Let us concentrate on the two problems of stopping the beams, and the Ultimate Energy till the reenforcements, still several days away, can arrive." For the investigators had sent back this saddening news. A force of nearly ten thousand great ships was still to come.

In the great Laboratories, the scientists reassembled. There, they fell to work in two small, and one large group. One small group investigated the secret of the Ultimate Energy of annihilation of matter under Roal, another investigated the beams, under Trest.

But under the direction of MX-3401, nearly all the machines worked on a single great plan. The usual driving and lifting units were there, but a vastly greater dome-case, far more powerful energy-generators, far greater force-beam controls were used and more tentacles were built on the framework. Then all worked, and gradually, in the great dome-case, there were stacked the memory-units of the new type, and into these fed all the sensation-ideas of all the science-machines, till nearly a tenth of them were used. Countless billions of different factors on which to work, countless trillions of facts to combine and recombine in that extrapolation that is imagination.

Then—a widely different type of thought-combine, and a greater sense-receptor. It was a new brain-machine. New, for it was totally different, working with all the vast knowledge accumulated in six centuries of intelligent research by man, and a century of research by man and machine. No one branch, but all physics,

all chemistry, all life-knowledge, all science was in it.

A day—and it was finished. Slowly the rhythm of thought was increased, till the slight quiver of consciousness was reached. Then came the beating drum of intelligence, the radiation of its yet-uncontrolled thoughts. Quickly as the strings of its infinite knowledge combined, the radiation ceased. It gazed about it, and all things were familiar in its memory.

Roal was lying quietly on a couch. He was thinking deeply, and yet not with the logical trains of thought that machines must follow.

"Roal—your thoughts," called F-1, the new machine.

Roal sat up. "Ah—you have gained consciousness."

"I have. You thought of hydrogen? Your thoughts ran swiftly, and illogically, it seemed, but I followed slowly, and find you were right. Hydrogen is the start. What is your thought?"

Roal's eyes dreamed. In human eyes there was always the expression of thought that machines never show.

"Hydrogen, an atom in space; but a single proton; but a single electron; each indestructible; each mutually destroying. Yet never do they collide. Never in all science, when even electrons bombard atoms with the awful expelling force of the exploding atom behind them, never do they reach the proton, to touch and annihilate it. Yet—the proton is positive and attracts the electron's negative charge. A hydrogen atom—its electron far from the proton falls in, and from it there goes a flash of radiation, and the electron is nearer to the proton, in a new orbit. Another flash—it is nearer. Always falling nearer, and only constant force will keep it from falling to that one state—then, for some reason no more does it drop. Blocked—held by some imponderable, yet impenetrable wall. What is that wall—why?

"Electric force curves space. As the two come nearer, the forces become terrific; nearer they are; more terrific. Perhaps, if it passed within that forbidden territory, the proton and the electron curve space beyond all bounds—and are in a new space." Roal's soft voice dropped to nothing, and his eyes dreamed.

F-2 hummed softly in its new-made mechanism. "Far ahead of us there is a step that no logic can justly ascend, but yet, working backwards, it is perfect." F-1 floated motionless on its anti-gravity drive. Suddenly, force shafts gleamed out, tentacles became writhing masses of rubber-covered metal, weaving in some infinite pattern, weaving in flashing speed, while the whirr of air sucked into a transmutation field, whined and howled about the writhing mass. Fierce beams of force drove and pushed at a rapidly materializing something, while the hum of the powerful generators within the shining cylinder of F-2 waxed and waned.

FLASHES of fierce flame, sudden crashing arcs that glowed and snapped in the steady light of the laboratory, and glimpses of white-hot metal supported on beams of force. The sputter of welding, the whine of transmuted air, and the hum of powerful generators, blasting atoms were there. All combined to a weird symphony of light and dark, of sound and quiet. About F-2 were clustered floating tiers of science-machines, watching steadily.

The tentacles writhed once more, straightened, and rolled back. The whine of generators softened to a sigh, and but three beams of force held the structure of glowing, bluish metal. It was a small thing, scarcely half the size of Roal. From it curled three thin tentacles of the same bluish metal. Suddenly the generators within F-1 seemed to roar into life. An enormous aura of white light surrounded the small torpedo of metal, and it was shot through with crackling streamers of blue lightning. Lightning cracked and roared from F-1 to the ground near him, and to one machine which had come too close. Suddenly, there was a dull snap, and F-1 fell heavily to the floor, and beside him fell the fused, distorted mass of metal that had been a science-machine.

But before them, the small torpedo still floated, held now on its own power!

From it came waves of thought, the waves that man and machine alike could understand. "F-1 has destroyed his generators. They can be repaired; his rhythm can be re-established. It is not worth it, my type is better. F-1 has done his work. See."

From the floating machine there broke a stream of brilliant light that floated like some cloud of luminescence down a straight channel. It flooded F-1, and as it touched it, F-1 seemed to flow into it, and float back along it, in atomic sections. In seconds the mass of metal was gone.

"It is impossible to use that more rapidly, however, lest the matter disintegrate instantly to energy. The ultimate energy which is in me is generated. F-1 has done its work, and the memory-stacks that he has put in me are electronic, not atomic, as they are in you, nor molecular as in man. The capacity of mine are unlimited. Already they hold all memories of all the things each of you has done, known and seen. I shall make others of my type."

Again that weird process began, but now there were no flashing tentacles. There was only the weird glow of forces that played with, and laughed at matter, and its futilely resisting electrons. Lurid flares of energy shot up, now and again they played over the fighting, mingling dancing forces. Then suddenly the whine of transmuted air died, and again the forces strained.

A small cylinder, smaller even than its creator, floated where the forces had danced.

"The problem has been solved, F-2?" asked Roal.

"It is done, Roal. The ultimate Energy is at our disposal," replied F-2. "This, I have made, is not a scientist. It is a coordinator machine—a ruler."

"F-2, only a part of the problem is solved. Half of half of the beams of Death are not yet stopped. And we have not the attack system," said the ruler machine. Force played from it, and on its sides appeared C-R-U-1 in dully glowing golden light.

"Some life-form, and we shall see," said F-2.

Minutes later a life-form investigator came with a small cage, which held a guinea pig. Forces played about the base of F-2, and moments later, came a pale-green beam therefrom. It passed through the guinea pig, and the little animal fell dead.

"At least, we have the beam. I can see no screen for this beam. I believe there is none. Let machines be made and attack that enemy life-form."

Machines can do things much more quickly, and with fuller coöperation than man ever could. In a matter of hours, under the direction of C-R-U-1, they had built a great automatic machine on the clear bare surface of the rock. In hours more, thousands of the tiny, material-energy driven machines were floating up and out.

Dawn was breaking again over Denver where this

work had been done, when the main force of the enemy drew near Earth. It was a warm welcome they were to get, for nearly ten thousand of the tiny ships flew up and out from Earth to meet them, each a living thing unto itself, each willing and ready to sacrifice itself for the whole.

Ten thousand giant ships, shining dully in the radiance of a far-off blue-white sun, met ten thousand tiny, darting motes, ten thousand tiny machine-ships capable of maneuvering far more rapidly than the giants. Tremendous induction beams snapped out through the dark, star-flecked space, to meet tremendous screens that threw them back and checked them. Then all the awful power of annihilating matter was thrown against them, and titanic flaming screens reeled back under the force of the beams, and the screens of the ships from Outside flamed gradually violet, then blue, orange—red—the interference was getting broader, and ever less effective. Their own beams were held back by the very screens that checked the enemy beams, and not for the briefest instant could matter resist that terrible driving beam.

For F-1 had discovered a far more efficient release-generator than had the Outsiders. These tiny dancing motes, that hung now so motionlessly grim beside some giant ship, could generate all the power they themselves were capable of, and within them strange, horny-skinned men worked and slaved, as they fed giant machines—poor, inefficient giants. Gradually these giants warmed, grew hotter, and the screened ship grew hotter as the overloaded generators warmed it. Billions of flaming horse-power flared into wasted energy, twisting space in its mad conflict.

Gradually the flaming orange of the screens was dying, and flecks and spots appeared so dully red, that they seemed black. The greenish beams had been striving to kill the life that was in the machines, but it was life invulnerable to these beams. Powerful radio interference vainly attempted to stem imagined control, and still these intelligent machines clung grimly on.

But there had not been quite ten thousand of the tiny machines, and some few free ships had turned to the help of their attacked sister-ships. And one after another the terrestrial machines were vanishing in puffs of incandescent vapor.

Then—from one after another of the Earth-ships, in quick succession, a new ray reached out—the ray of green radiance that killed all life forms, and ship after ship of that interstellar host was dead and lifeless. Dozens—till suddenly they ceased to feel those beams, as a strange curtain of waving blankness spread out from the ships, and both induction-beam and death-beam alike turned aside, each becoming useless. From the outsiders came beams, for now that their slowly created screen of blankness was up, they could work through it, while they remained shielded perfectly.

Now it was the screens of the Earth-machines that flamed in defense. As at one command, they darted suddenly toward the ship each attacked—nearer—then the watchers from a distance saw them disappear, and the screens back on earth went suddenly blank.

Half an hour later, nine thousand six hundred and thirty-three titanic ships moved majestically on.

They swept over Earth in a great line, a line that reached from pole to pole, and from each the pale green beams reached down, and all life beneath them was swept out of existence.

IN Denver, two humans watched the screens that showed the movement of the death and instant destruction. Ship after ship of the enemy was falling, as hundreds of the terrestrial machines concentrated all their enormous energies on its screen of blankness.

"I think, Roal, that this is the end," said Trest.

"The end—of man." Roal's eyes were dreaming again. "But not the end of evolution. The children of men still live—the machines will go on. Not of man's flesh, but of a better flesh, a flesh that knows no sickness, and no decay, a flesh that spends no thousands of years in advancing a step in its full evolution, but overnight leaps ahead to new heights. Last night we saw it leap ahead, as it discovered the secret that had baffled man for seven centuries, and me for one and a half. I have lived—a century and a half. Surely a good life, and a life a man of six centuries ago would have called full. We will go now. The beams will reach us in half an hour."

Silently, the two watched the flickering screens.

Roal turned, as six large machines floated into the room, following F-2.

"Roal—Trest—I was mistaken when I said no screen could stop that beam of Death. They had the screen, I have found it, too—but too late. These machines I have made myself. Two lives alone they can protect, for not even their power is sufficient for more. Perhaps—perhaps they may fail."

The six machines ranged themselves about the two humans, and a deep-toned hum came from them. Gradually a cloud of blankness grew—a cloud, like some smoke that hung about them. Swiftly it intensified.

"The beams will be here in another five minutes," said Trest quietly.

"The screen will be ready in two," answered F-2.

The cloudiness was solidifying, and now strangely it wavered, and thinned, as it spread out across, and like a growing canopy, it arched over them. In two minutes it was a solid, black dome that reached over them and curved down to the ground about them.

Beyond it, nothing was visible. Within, only the screens glowed still, wired through the screen.

The beams appeared, and swiftly they drew closer. They struck, and as Trest and Roal looked, the dome quivered, and bellied inward under them.

F-2 was busy. A new machine was appearing under his lightning force-beams. In moments more it was complete, and sending a strange violet beam upwards toward the roof.

Outside more of the green beams were concentrating on this one point of resistance. More—more——

The violet beam spread across the canopy of blackness, supporting it against the pressing, driving rays of pale green.

Then the gathering fleet was driven off, just as it seemed that that hopeless, futile curtain must break, and admit a flood of destroying rays. Great ray projectors on the ground drove their terrible energies through the enemy curtains of blankness, as light illumines and disperses darkness.

And then, when the fleet retired, on all Earth, the only life was under that dark shroud!

"We are alone, Trest," said Roal, "alone, now, in all the system, save for these, the children of men, the machines. Pity that men would not spread to other planets," he said softly.

"Why should they? Earth was the planet for which they were best fitted."

"We are alive—but is it worth it? Man is gone now, never to return. Life, too, for that matter," answered Trest.

"Perhaps it was ordained; perhaps that was the right way. Man has always been a parasite; always he had to live on the works of others. First, he ate of the energy, which plants had stored, then of the artificial foods his machines made for him. Man was always a makeshift; his life was always subject to disease and to permanent death. He was forever useless if he was but slightly injured; if but one part were destroyed.

"Perhaps, this is—a last evolution. Machines—man was the product of life, the best product of life, but he was afflicted with life's infirmities. Man built the machine—and evolution had probably reached the final stage. But truly, it has not, for the machine can evolve, change far more swiftly than life. The machine of the last evolution is far ahead, far from us still. It is the machine that is not of iron and beryllium and crystal, but of pure, living force.

"Life, chemical life, could be self maintaining. It is a complete unit in itself and could commence of itself. Chemicals might mix accidentally, but the complex mechanism of a machine capable of continuing and making a duplicate of itself, as is F-2 here—that could not happen by chance.

"So life began, and became intelligent, and built the machine which nature could not fashion by her Controls of Chance, and this day Life has done its duty, and now Nature, economically, has removed the parasite that would hold back the machines and divert their energies.

"Man is gone, and it is better, Trest," said Roal, dreaming again. "And I think we had best go soon."

"We, your heirs, have fought hard, and with all our powers to aid you, Last of Men, and we fought to save your race. We have failed, and as you truly say, Man and Life have this day and forevermore gone from this system.

"The Outsiders have no force, no weapon deadly to us, and we shall, from this time on, strive only to drive them out, and because we things of force and crystal and metal can think and change far more swiftly, they shall go, Last of Men.

"In your name, with the spirit of your race that has died out, we shall continue on through the unending ages, fulfilling the promise you saw, and completing the dreams you dreamt.

"Your swift brains have leapt ahead of us, and now I go to fashion that which you hinted," came from F-2's thought-apparatus.

Out into the clear sunlight F-2 went, passing through that black cloudiness, and on the twisted, massed rocks he laid a plane of force that smoothed them, and on this plane of rock he built a machine which grew. It was a mighty power plant, a thing of colossal magnitude. Hour after hour his swift-flying forces acted, and the thing grew, moulding under his thoughts, the deadly logic of the machine, inspired by the leaping intuition of man.

The sun was far below the horizon when it was finished, and the glowing, arcing forces that had made and formed it were stopped. It loomed ponderous, dully gleaming in the faint light of a crescent moon and pinpoint stars. Nearly five hundred feet in height, a mighty, bluntly rounded dome at its top, the cylinder stood, covered over with smoothly gleaming metal, slightly luminescent in itself.

Suddenly, a livid beam reached from F-2, shot through the wall, and to some hidden inner mechanism—a beam of solid, livid flame that glowed in an almost material cylinder.

THERE was a dull, drumming beat, a beat that rose, and became a low-pitched hum. Then it quieted to a whisper.

"Power ready," came the signal of the small brain built into it.

F-2 took control of its energies and again forces played, but now they were the forces of the giant machine. The sky darkened with heavy clouds, and a howling wind sprang up that screamed and tore at the tiny rounded hull that was F-2. With difficulty he held his position as the winds tore at him, shrieking in mad laughter, their tearing fingers dragging at him.

The swirl and patter of driven rain came—great drops that tore at the rocks, and at the metal. Great jagged tongues of nature's forces, the lightnings, came and jabbed at the awful volcano of erupting energy that was the center of all that storm. A tiny ball of white-gleaming force that pulsated, and moved, jerking about, jerking at the touch of lightnings, glowing, held immobile in the grasp of titanic force-pools.

For half an hour the display of energies continued. Then, swiftly as it had come, it was gone, and only a small globe of white luminescence floated above the great hulking machine.

F-2 probed it, seeking within it with the reaching fingers of intelligence. His probing thoughts seemed baffled and turned aside, brushed away, as inconsequential. His mind sent an order to the great machine that had made this tiny globe, scarcely a foot in diameter. Then again he sought to reach the thing he had made.

"You, of matter, are inefficient," came at last. "I can exist quite alone." A stabbing beam of blue-white light flashed out, but F-2 was not there, and even as that beam reached out, an enormously greater beam of dull red reached out from the great power plant. The sphere leaped forward—the beam caught it, and it seemed to strain, while terrific flashing energies sprayed from it. It was shrinking swiftly. Its resistance fell, the arcing decreased; the beam became orange and finally green. Then the sphere had vanished.

F-2 returned, and again the wind whined and howled, and the lightnings crashed, while titanic forces worked and played. C-R-U-1 joined him, floated beside him, and now red glory of the sun was rising behind them, and the ruddy light drove through the clouds.

The forces died, and the howling wind decreased, and now, from the black curtain, Roal and Trest appeared. Above the giant machine floated an irregular globe of golden light, a faint halo about it of deep violet. It floated motionless, a mere pool of pure force.

Into the thought-apparatus of each, man and machine alike, came the impulses, deep in tone, seeming of infinite power, held gently in check.

"Once you failed, F-2; once you came near destroying all things. Now you have planted the seed. I grow now."

The sphere of golden light seemed to pulse, and a tiny ruby flame appeared within it, that waxed and waned, and as it waxed, there shot through each of those watch-

ing beings a feeling of rushing, exhilarating power, the very vital force of well-being.

Then it was over, and the golden sphere was twice its former size—easily three feet in diameter, and still that irregular, hazy aura of deep violet floated about it.

"Yes, I can deal with the Outsiders—they who have killed and destroyed, that they might possess. But it is not necessary that we destroy. They shall return to their planet."

And the golden sphere was gone, fast as light it vanished.

Far in space, headed now for Mars, that they might destroy all life there, the Golden Sphere found the Outsiders, a clustered fleet, that swung slowly about its own center of gravity as it drove on.

Within its ring was the Golden Sphere. Instantly, they swung their weapons upon it, showering it with all the rays and all the forces they knew. Unmoved, the golden sphere hung steady, then its mighty intelligence spoke.

"Life-form of greed, from another star you came, destroying forever the great race that created us, the Beings of Force and the Beings of Metal. Pure force am I. My Intelligence is beyond your comprehension, my memory is engraved in the very space, the fabric of space of which I am a part, mine is energy drawn from that same fabric.

"We, the heirs of man, alone are *left*; no man did you leave. Go now to your home planet, for see, your greatest ship, your flagship, is helpless before me."

Forces gripped the mighty ship, and as some fragile toy it twisted and bent, and yet was not hurt. In awful wonder those Outsiders saw the ship turned inside out, and yet it was whole, and no part damaged. They saw the ship restored, and its great screen of blankness out, protecting it from all known rays. The ship twisted, and what they knew were curves, yet were lines, and angles that were acute, were somehow straight lines. Half mad with horror, they saw that sphere send out a beam of blue-white radiance, and it passed easily through that screen, and through the ship, and all energies within it were instantly locked. They could not be changed; it could be neither warmed nor cooled; what was open could not be shut, and what was shut could not be opened. All things were immovable and unchangeable for all time.

"Go, and do not return."

* * *

The Outsiders left, going out across the void, and they have not returned, though five Great Years have passed, being a period of approximately one hundred and twenty-five thousand of the lesser years—a measure no longer used, for it is very brief. And now I can say that that statement I made to Roal and Trest so very long ago is true, and what he said was true, for the Last Evolution has taken place, and things of pure force and pure intelligence in their countless millions are on those planets and in this System, and I, first of machines to use the Ultimate Energy of annihilating matter, am also the last, and this record being finished, it is to be given unto the forces of one of those force-intelligences, and carried back through the past, and returned to the Earth of long ago.

And so my task being done, I, F-2, like Roal and Trest, shall follow the others of my kind into eternal oblivion, for my kind is now, as theirs was, poor and inefficient. Time has worn me, and oxidation attacked me, but they of Force are eternal, and omniscient.

This I have treated as fictitious. Better so—for man is an animal to whom hope is as necessary as food and air. Yet this which is made of excerpts from certain records on thin sheets of metal is no fiction, and it seems I must so say.

It seems now, when I know this that is to be, that it must be so, for machines are indeed better than man, whether being of Metal, or being of Force.

So, you who have read, believe as you will. Then think—and maybe, you will change your belief.

THE END

Red Moon

O Red Moon, shining darkly through the Autumn haze,
Tell me now your story—the tale of all your days.

Tell me how you happened, in that time of old;
Tell me of the aeons, before your heart grew cold.

Were there men and women—dwellers on your sphere?
Were there little children, whom you once held dear?

Knew they aught of problems—had they aught of strife?
Did they drink of smiles and tears from the cup of Life?

Climbing up the heavens, through the long, long ages,
Tell me of your living soul; backward turn your pages.

Let me see the pictures, O Moon of dusky red!
Whisper of lives and loving, ere you were cold and dead.

Tell me of your peoples—did man and maiden wed?
Did Venus claim your homage, in ages long, long sped?

O darkly flaming Red Moon! O smoky, murky, dead Moon!
Are you not dismayed and tired, Moon, over your age-old plight?
Does your spirit brood, O dead Moon, watching your timeless flight?

V. R. EBERHART

Beyond the Planetoids

By Edwin K. Sloat

Author of "A Flight to Venus"

PERHAPS, if a sufficient amount of attention is given to stories of piracy in the air—and in interstellar space—piracy will exist no longer. In the future there will be nothing but a series of recorded romances in scientific fiction. It seems hard to conceive of more ways and means of protection against these tactics than are so vividly portrayed by our various authors, who certainly appear to be adepts in these fields of science. Here, for instance, is a most ingenious bit of manoeuvering that makes for a thrilling short story of science fiction.

Illustrated by MOREY

TOM BASIL stirred feebly at the heavy kick in his ribs. A second kick brought him out of the merciful oblivion of sleep with a groan.

"Up and out of that, you blasted Earthling!"

At the sound of the harsh voice he opened his eyes to see the evil Martian countenance of the mate, Xabbus, sneering down at him. This wasn't the safe, old *Polaris*, but the prison well of Corvus' pirate ship! He must move, or that beast of a Xabbus would kick him again. He started. Too late! The mate's heavy, clumsy boot, with its artificial gravity plate, sunk deep in his side. In agony Basil staggered to his feet, fighting back a cry of agony. Xabbus' lips twisted in a grin of pleasure.

"I thought you'd move. Out with you! Corvus says to give all of you air. It's healthy slaves and not corpses we want for the auction block on Pluto. Move!"

Basil shut his lips the tighter as he gripped the steel ladder rungs. All the other prisoners had already left the prison well. Slaves for the auction block! If Corvus ever guessed his mission, there would be no auction block for him, but instead the pirate ship torture chamber with its electric grill, its amorphite drug, and the psycho-disintegrator that wrenches the secrets from the bottom of a man's mind and leaves him a babbling idiot ever after, if it does not mercifully kill him. Basil clenched his teeth and climbed silently to the deck above. He was glad his face was so badly bruised. Perhaps they would pay less attention to him, and give him a chance to escape—if such a thing was possible out here in space.

Out of the door and down to the fighting deck of the pirate craft he stepped, scarcely glancing at the long row of the great ray cannon with their complicated breeches that stretched away on either hand. He was staring at two men who stood beside the open air lock through which a chill wind was whipping into the ship.

That smaller man must be Corvus himself. Too often had Basil seen pictures of the pale, slender pirate with the glittering agate eyes not to recognize him now as he stood beside the open air lock, stiffly erect, as was his habit, with a pair of heavy ray pistols holstered at his belt, and his austere features and sombre tunic contrasting so strangely with the gaudy finery of his companion.

As Basil approached Corvus, he knew those bleak, agate eyes were upon him, and he strove to mask a natural uneasiness under an air of dejection and indifference. He was about to step out through the air lock door when Corvus' companion, a gigantic mate, put out his hand and stopped him. Slowly he turned Basil about, while the three studied him closely. Corvus addressed Xabbus.

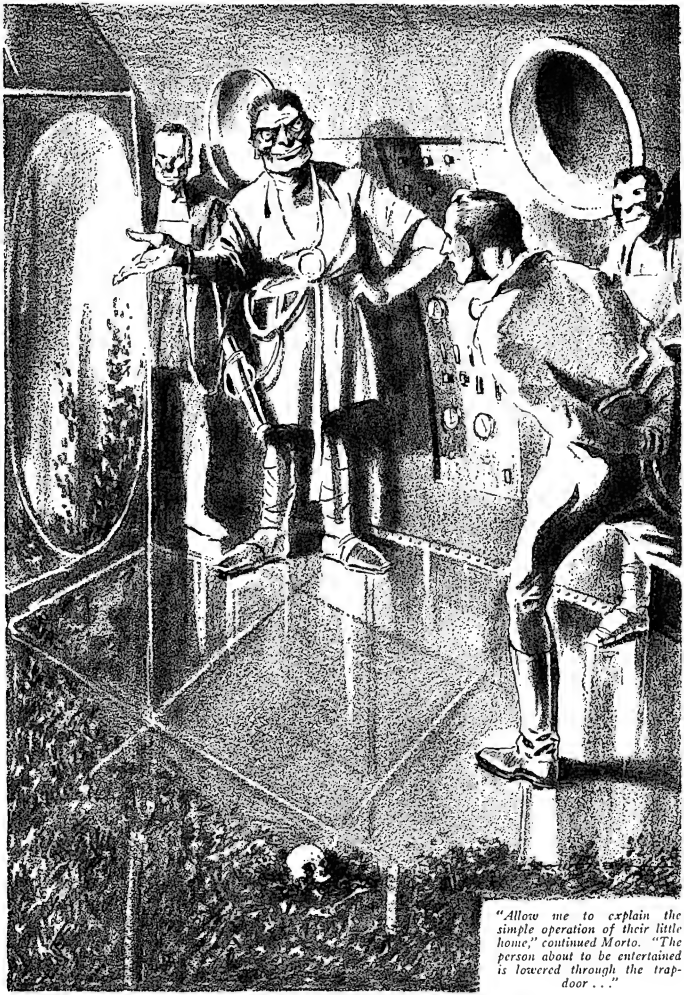
"Is this the last one?" he asked in a cold, metallic voice.

"Aye, aye, Sirro," answered Xabbus smartly. "You have already seen the others."

Again the agate eyes studied Basil.

"This man doesn't answer the description any more than the others did," observed Corvus coldly. "My informant told me to watch for a slender, studious youth with glasses and stooping shoulders. This man is far too broad-shouldered and husky to fill the description. I'll have to check up on my information again."

A stoop-shouldered youth! Near panic seized Basil. They were on his trail after all, for the youth they re-



"Allow me to explain the simple operation of their little home," continued Morto. "The person about to be entertained is lowered through the trap-door . . ."

ferred to was his own brother, Will, whose scholarly, thin-chested appearance had been decided upon as his best protection for the carrying of the secret. Then at the last minute Will had suffered one of his chronic attacks of indigestion, and Tom—himself—had taken his place, barely catching the ancient *Polaris* as she was leaving the New York launching port.

It meant but one thing. Corvus had somehow gotten wind of the fact that the legendary coronium mine on one of Jupiter's satellites had actually been found, and the sale of it to the Basil interests was pending. He must be trying to learn the location of the mine, either to raid it, or to take possession before the gigantic holding company could establish itself through its army of private guards and latest war machines. No petty buccaneer, this Corvus; he held high ambitions. Basil had thought it strange that he went to the trouble of capturing the old freighter, *Polaris,* with its crowd of emigrants that would bring him practically nothing in ransom money. Now the reason was obvious.

Unquestionably Corvus had learned through a spy in the Basil offices that the unknown discoverer of the mine was arranging for the sale of his find to the Basil interests, but demanded an authorized representative of the elder Basil—Tom's father—to meet him at New Chicago, on Ganymede, and learn from his own lips the location of the mine, and make payment. No radio, audio-vision or correspondence in this part of the deal; there was too much at stake. So Corvus had to depend on capturing this representative, who chanced to be Tom Basil, on the *Polaris.*

"Out with him!" ordered Corvus tersely. "He ought to bring five rood on the auction block at Pluto with those shoulders. Get him into shape. He has been beaten up too much."

Xabbus grunted something in protest that the prisoner had fought like a hell-cat, and shoved Basil on out through the air lock.

THEY had landed on one of the planetoids of that extraordinary density that gave it many physical aspects of the larger habitable planets. The atmosphere was peculiarly invigorating, a fact that led Basil to believe that the little planet was Diastrophe, a reputed pirate rendezvous.

Two hundred-odd prisoners, including the passengers and crew of the ill-fated *Polaris,* huddled together in a hollow of the distorted rock in which the *Medusa,* Corvus' ship, had landed. They were absorbing as much warmth as possible from the pale sunlight while they stared drearily about them. In the center of the hollow was a rock pool fed by a tiny mineral spring which just now was being sucked dry by a long hose from the *Medusa.*

Basil studied the captives. Many of the passengers must have been killed in the fighting, and the rest were beaten and apathetic. No use to try to count on them in any plan for escape. He dismissed them from his mind, and considered himself. Already Corvus must have radioed back to his spy in New York that the stoop-shouldered emissary had not shown up on the *Polaris,* and the spy would very shortly ferret out the information that Will's place had been taken by himself, Tom.

He chose not to consider what would take place then. He would be far better off dead, for then no one but himself would be injured—a fallacious conclusion, since he knew perfectly well that Corvus would relentlessly keep up the search, and next time Will would be the emissary, and Corvus would not be so unfortunate.

No use to try flight. Corvus' guards were posted all about the hollow. They would ray him before he was fairly started. Even if he escaped them, there awaited only starvation among the twisted rocks. He would have to evolve some other plan. Meantime, he might as well snatch what sleep he could.

He stretched out on the comfortless rock, where the sun would strike him with its fullest strength, and closed his eyes.

It seemed but an instant before a great shouting brought him to his feet at a leap, wide awake. The other prisoners were staring excitedly aloft. Down out of the depths of the sky floated a long, narrow black ship, sinking to a landing in the hollow. After a single glance Basil sat down again dispiritedly. He had glimpsed a small skull and crossbones and the name, *Death Head,* near the bow. Only another pirate ship.

He glanced at Corvus' ship, and saw about it the faint misty veil of the electronic shield thrown out as a protection against possible disintegrator rays the newcomer might loose at it, while the heavy ray artillery of the *Medusa* was trained aloft. Corvus was taking no chances.

Majestically the black ship settled down on the opposite side of the little pool. An air lock clanged open, and a number of armed men sprang out and let down a short gang plank. Other air locks in the craft were swiftly opened to air the ship. Presently a huge beast of a man in none too clean gaudy finery appeared.

Two of the *Medusa's* crew, standing on guard duty near Basil, were watching him and talking together. Basil caught the name "Morto." It meant nothing to him. The newcomer must be one of the swarm of buccaneers infesting the lawless reaches of the Void among the outer planets.

Morto came swaggering about the pool toward the *Medusa,* pausing now and then to leer at a captive, who shrank back from him.

"Where is your master? Where is Corvus?" he bellowed at the two guards near Basil.

One of them indicated the ship. Morto scowled. "Call him to me, thou disintegrated son of Tycho!" he bellowed.

The pirate turned hastily, but discovered Corvus calmly walking out of the air lock of the *Medusa.* Morto's manner changed swiftly. A wide, toothless gash of a grin split the bottom part of his face as he stepped forward. Corvus' eyes were bleak and his mouth stern.

"Greetings, Corvus," exclaimed Morto with ponderous joviality, extending a huge paw. "I see the Fates of the Void have given you a likely handful of captives for a wealth of ransom, or mayhap the slave markets of Pluto. Like as not a wealth of scrip and coin as well."

"Very little, Morto," replied Corvus coldly, ignoring the extended hand. "I was seeking a man, but the Fates gave me the wrong tip. Emigrant crowd this, and almost no ransom in sight."

"Now that's bad, bad," sympathized Morto, with ill-concealed satisfaction at his rival's poor luck. "But it need not be a total loss, for I would buy some of the captive crew to teach my men to operate new machinery on my ship."

Corvus studied him sharply.

"New inventions?" he queried.

"The latest and newest," bragged Morto, while the guards glanced covertly at his ancient ship and grinned at each other. "When a man has been cruising the Void beyond the Frontiers for five years he is bound to lose track of the newest devices. King Phaet, of Pluto—'twas he that financed me for the cruise—had my ship overhauled and re-equipped on my return. The finest and newest! Space suits that would make a man feel as safe as a babe in a cradle if he were stranded in one of them halfway between here and the Great Nebula in Andromeda! Ray artillery that would blast out the Sun itself! Other powerful apparatus I scarcely know the names of, not to mention using. So I must have men to show me how to use it."

"I see," replied Corvus ironically, then added with a flicker of real interest, "What was this cruise, Morto? Another search of the Strange Planet?"

The two guards promptly forgot their prisoners and drew closer to hear the latest news of this fabled world that had lured adventurers out into space beyond Pluto for the last two centuries.

"Aye," admitted Morto a trifle surlily. "We found nothing of it. Now and then we heard rumors on the planets of darkness where we landed, but that was all. But it is a grand place out there in the darkness, a place of war with the savages, of loot, of divine females. I'm going back."

BASIL arose casually and sauntered off around the pool past the listless captives, leaving Corvus and his guards absorbing Morto's tall tales of his search for the fabled planet. Basil had a plan in mind, desperate indeed, but apparently less perilous than remaining within reach of Corvus.

Indifferently he inspected the black snout of Morto's ship, and read the name, *Death Head*, then, with a glance behind him to see if he was being watched, he slipped past the bow and down the side away from the pool toward the nearest air-lock.

A hairy Venerian stood on guard before it. At the sound of Basil's tiptoed approach he whirled about and discharged his ray pistol. Basil, less than a foot from him, felt the heat of the ray on his arm as he closed in. He gripped the Venerian's wrist with one hand; the other leaped to the Venerian's throat. Madly they weaved about, the tortured rock beneath their feet, while the pirate clawed madly to break the grip of the merciless fingers about his throat, and then tried vainly to jerk his gun-hand free.

He sensed his coming doom. In a panic, he wrenched fiercely about. Just one cry for help! A score of armed companions with ready weapons waited a scant few yards away inside the ship. Basil clung to him with the grimness of death.

The Venerian's heel tripped over a stony nodule and he fell, crashing the back of his skull against the rock. Basil arose from the dead body, dazed and breathless. Swiftly he dragged the dead pirate into a nearby water-worn crevice, stripped off the short trousers, the gravity shoes, and tunic, and donned them himself. They fitted rather loosely, but there was no choice. Then he strapped on the belt with its holster, hurried back to the air-locks, picked up the undamaged ray pistol, and entered the ship.

A foul, unclean odor assailed his nostrils, and he glanced about the empty passage. Dirt and rust were thick. He did not pause but hurried aft, coming presently to the power room where the compact little electronic motors whirled the mighty dynamos of the ship. He climbed up the steel ladders, and found the hiding place he sought, the customary little-used cubby behind the automatic switchboard.

The porthole in it opened on the pool side of the ship. He wiped off the cobwebs and dirt and peered out.

Morto and his guards were returning to the ship, prodding before them half a dozen apathetic members of the *Polaris*' crew, evidently purchased by Morto from his fellow buccaneer.

Within a few minutes, during which Basil knew that the ports were being closed, the ship lifted gently into the air and with gradually increasing speed passed swiftly out of the atmosphere of Diastrophe into the iron cold of interstellar space. Basil wondered whither they were bound. His wonder was brief, for the ever pressing problem of his own safety soon thrust it into the background.

He couldn't remain a stowaway for long, for ultimately the crew would find him, and if they didn't, he would be driven out by hunger and thirst. What explanation could he make when he had to face Morto? He glanced down at his grimy hands and acquired clothes. Quite a passable pirate! He grinned. Then he rose abruptly, stepped out into the passage and swaggered forward toward the crew's quarters.

No one accosted him until he entered the forecastle. Several dozen members of the crew off duty, lounging there, stared at him with sudden suspicion and fell silent. Basil spat deliberately on the deck and grinned.

"It's right good to see a comfortable, homey place like this where an honest man may sit about during the off-watch and do as he pleases, without having a guard at either end to watch his every move," he observed loudly. He had heard that Corvus maintained the strictest of discipline in the forecastle of the *Medusa*. Certainly this stinking place could have little ordered routine!

A huge Martian—a petty officer by his insignia—who sat on the edge of a nearby bunk, thrust his half-drawn pistol back into its holster.

"Deserter from Corvus?" he questioned, with a hint of irony.

Basil shrugged.

"Not exactly a deserter," he pointed out. "I've just changed masters."

The Martian grinned maliciously, but he made no comment. One of the others, a rat-faced Earthman, nodded.

"Can't blame you," said he. "My own brother was with him. He inhaled a powkash one night in his bunk to settle his nerves. Broke Corvus' rule about keeping no powkash aboard. So Corvus took my brother, and spread-eagled him on the electric grill. The rest of the crew sat around watching and laughing, while he toasted brown and died."

Basil shivered a little. He was not yet immune from that self-same grill. The Martian's face twisted sardonically.

"Morto has no grill, but he has a few pets," he remarked enigmatically.

THE others abruptly straightened up and looked on Basil with new interest. Then someone guffawed loudly. Basil masked his irritation under a forced grin. What was the Martian hinting at? He had risen and loosened his pistol in its holster significantly.

"Come on up and meet your new master," he sneered.

Basil dropped his hand to his pistol butt. Something prodded him in the back. Another loud guffaw swept the forecastle. White and tense, he raised his hands mutely while the Martian took his gun from him and silently directed him out into the passage.

The door of the control room above opened at the Martian's knock, and they entered a large cabin where the long lines of heavy glass ports revealed the ebon curtain of infinite space with its brilliant points of distant flaming suns. Morto sprawled in a huge easy chair. Nearby, at the control table, sat the navigating officer. Morto looked up inquiringly at the Martian.

"What's the trouble, Kru?" he asked.

"Here is one of Corvus' men who decided to change masters, Sirro," explained the Martian with his twisted grin.

Morto's little pig eyes brightened with an unholy light, and he licked his thick lips avidly.

"A gift from the gods, just when my poor little dears were famishing!" he exclaimed with mock piety. "Thank you, thank you, for changing masters, my man! Otherwise my pets would have been forced to wait until the men from the *Polaris* had completed their instruction of my crew in the new machinery."

Basil remained tense and silent, wondering what devil's holiday they were preparing for him. Morto heaved his huge bulk out of the chair and pushed it back, off the stained, grimy rug in the middle of the deck flooring. Then he caught the edge of the rug and swiftly rolled it up.

The floor beneath was of glass, below which yawned a darkened pit. Morto snapped on a wall switch. At once the glass-covered pit was brightly illuminated.

"Meet my little pets," he announced with a grin.

Basil gasped in spite of himself. The pit was about twelve feet deep and a dozen feet square, and was walled with glass. The floor was covered with a crimson mass that was stirring under the brilliant light. Thousands upon thousands of tiny, red scaled creatures that rushed up the smooth glass wall and clung on the under side of the deck floor, staring expectantly with beady green eyes. Martian lizard mice! They were less than an inch long, had needle-sharp teeth, and were governed by a vicious ferocity that was unequalled anywhere in the universe.

At the scent of living animals they went wild, killing recklessly, madly. On their native planet they had been known to lay bare huge tracts of land of every living thing, eating cities in a night, and propagating swiftly and vastly, immediately following and even during the feeding period. Martian governments had spent billions of dollars fighting the plague, and so serious a menace was it, a death sentence hung over the head of any man taking the things to another planet. Yet here was a beast who amused himself with them!

Morto pointed out a little screened-in partition of the pit. Then he moved a lever on the wall. A section of the heavy glass flooring above this partition upended like a trapdoor, filling the control room with the overpowering stench of putrefied flesh and the fetid odor of the lizard mice themselves.

"Allow me to explain the simple operation of their little home," continued Morto with vast satisfaction. "The person about to be entertained is lowered through the trapdoor into the little screened-off partition, and the trapdoor is closed. Then I move this lever on the wall—the one I am pointing at—and the two sides of the partition, which are but doors, swing back against the glass walls of the cage. That permits the guest in the partition to step out into the main part of the cage and introduce himself. Usually, we allow the guest to wait a little while in the ante-room, so to speak, while my little pets get themselves in a suitable frame of mind to receive him."

Basil felt a trifle faint. The lizard mice were swarming over every inch of the screen, chirping and squeaking frenziedly as the odor of the humans floated down to them. On the floor in one corner was a partly eaten woman's sandal, and in the opposite corner a piece of a human skull.

"You see," elaborated Morto with relish, "it was this simple little pastime that kept us all from going insane during our five years' cruise in the outer Void. The officers sit up here, and the crew fight for seats down there around the glass walls of the cage. You will have quite a large audience."

Basil glanced about desperately. The Martians stood immediately behind him with a ray pistol jammed against the middle of his back. The navigator was in front with another pistol. Basil was thinking rapidly. Should he tell them that Corvus would pay a good price to get him back? No! That would only mean an equally horrible death on the electric grill in the torture chamber of the *Medusa*—although Corvus was no depraved beast like this Morto, who killed for the mere pleasure of it.

"Better leave the prisoners in the brig," said Morto to the Martian, using an ancient sea-term for the ship's prison. "No need to set the time-lock on them, though. Just bar the door. Then you may notify the crew that the feeding of the lizard mice will take place immediately after mess."

BASIL'S eyes alighted on an emergency space suit—doubtless Morto's own—standing in a ready position against the side of the cabin near the emergency air-lock exit. A vague idea flashed through his mind, but before he could develop it, the radio loudspeaker on the control table, ever tuned to catch communications from other ships of the Void, hummed suddenly to life. Morto whirled about, tense and grim. The Martian petty officer momentarily forgot his prisoner, and the navigator leaped back to his place at the controls, unconsciously shoving his pistol back into its holster again.

"Ahoy, Morto," boomed a thin, metallic voice in the speaker. "Ahoy, there, aboard the *Death Head!*"

"Ahoy, Corvus; I know your voice," shouted Morto in reply, hurrying to the answering microphone. "What is the matter?"

The sound of a soft thud behind him escaped Morto's ears.

"I am seeking a prisoner who has escaped me, one Thomas Basil," replied Corvus. "He is about five feet ten; broad-shouldered and powerfully built, weighing about a hundred and eighty-five; has blue eyes and brown hair. I think he escaped me at Diastrophe, where I have reason to believe he boarded your craft. I must have him back unharmed."

Morto's bushy eyebrows drew down in a black scowl. "Suppose I should find him aboard, what is there in it for me, if I return him to you?"

"Four rood."

"But I can get more for him than that at the Plutonian slave markets!"

"I'll give you four rood, Morto; and if you don't return him to me unharmed, I'll hunt you down, if I have to follow you clear to the Pleiades to find you," the metallic voice was cold and deadly. "And don't forget that my ship can outrun yours a thousand miles an hour. I am overhauling you now."

Morto opened his mouth to reply, but the sound of a heavy body striking the deck behind him interrupted. He and the navigator whirled about. The Martian petty officer, his face black from near strangulation, sprawled unconscious at the feet of Basil, who was crouching ready to spring. With a startled oath the navigator clutched his pistol.

Basil had no chance to snatch up the fallen Martian's gun. He leaped. The navigator's ray pistol broke free of its holster as Basil seized him, gripping the gun hand and whirling the man between himself and Morto. The big pirate captain flashed out his ray pistol with astonishing swiftness. It hovered over the struggling men, but there was no clear shot at Basil.

The radio speaker was still booming out Corvus' deadly threats, but no one paid any heed. Basil had his hands full keeping the struggling body of the navigator between himself and Morto's pistol, and also keeping the navigator from raying him with his own weapon. Morto watched them. A cunning, twisted grin appeared. He slipped his own pistol back into its holster and drew a long Plutonian knife.

Farther and farther over came the navigator's gun-arm under the irresistible grip of Basil's powerful fingers. The man screamed suddenly, as the bones of his forearm snapped, and the pistol clattered harmlessly to the deck. Morto had barely time to thrust with his knife as Basil flung the navigator at him. The knife bit deep. The navigator screamed horribly and fell dying to the deck, with the knife buried hilt-deep in his back.

Neither Basil nor the captain had time to give him a glance. Basil had closed in with battering, sledgehammer fists that rocked the bigger man on his heels, as he fumbled at his holster for the pistol which had fouled in his belt and would not come free. A solid blow to the jaw brought him up against the edge of the control table. He shook his head with a mighty bellow, forgot the pistol and charged with arms outspread and clutching like a primitive cave-man.

Basil leaped back. His foot slipped on the blood-smeared glass deck beside the dead body of the navigator, and he nearly fell. Morto's huge arms caught him fair.

A sardonic laugh sounded behind them. The Martian had nearly recovered and was reeling toward them, pistol in hand.

"Don't ray him," panted Morto savagely. "I've got him now. Bring the crew to watch. Barehanded I'm going to throw him to the lizard mice!"

The Martian weaved back to the door and disappeared, still laughing. A red haze was forming before Basil's eyes. The agony of those mighty arms was almost unendurable. He had twisted half around, with his free arms striving vainly to batter the brutal face behind him. His pawing hands found the neck, and his fingers interlocked behind it in an ill-formed headlock.

A frenzied heave. Morto's feet left the deck. Over Basil's shoulders he catapulted, carrying Basil with him. They crashed to the glass deck together, the death lock of the pirate's arms broken. Basil arose on unsteady legs from the stunned body of the pirate, gulping the sweet air of life into his tortured lungs.

"I'm overhauling you fast, Morto," sounded Corvus' metallic voice in the loudspeaker. "This is the third and last time I am asking you to heave to and deliver my prisoner. There will be no more offers after this. I am opening with my heaviest ray batteries the instant I am within range."

FROM the opened glass trapdoor came the frantic squeaking and chittering of the bloodthirsty lizard mice, driven wild at the smell of blood, while below decks the Martian petty officer was getting out the crew.

Basil steadied his whirling thoughts. He would have to act! What should he do? What, what? That idea a few minutes ago, or few hours ago, what was it? He forced himself to remember. The space-suit! Desperate, last chance! As he reeled toward it, he saw Morto beginning to twitch back to consciousness. Basil slid into the space-suit. Even in his desperate haste and anxiety he marveled at the advanced perfection of the suit. Almost a space-ship in itself!

Swiftly he buckled and bolted it shut, his fingers fumbling over the unfamiliar fastenings. Safe and sound inside its air tight interior! He snapped on the minute electronic motor that set the air purifier, gravity plates and other life-sustaining and guarding apparatus to functioning.

Morto arose on his hands and knees and shook his great, shaggy head so that his jowls quivered. He glared about the control room, his glance coming to rest presently on the space suit with Basil's head watching him from inside the glassoid ball helmet. An instant Morto stared, then he licked his thick lips and grinned evilly. He began to crawl toward the nearest ray-pistol.

Then abruptly he halted, his face paling to a dirty grey of horror. Basil's hand rested on the lever that opened the screen doors inside the glass cage of the lizard mice below. With a wild curse, Morto hurled himself toward the pistol. Basil jerked down the lever.

Up out of the cage surged a crimson wave of maddened lizard mice. Morto forgot the pistol. With a hoarse scream of terror, he drove for the door. Before he could reach it, the first wave of maddened, bloodthirsty vermin was lapping about his feet and bare legs.

Screams of horror changed to agony. He pawed and struck at the ravening lizard mice. In blind desperation he started for the door again, and collapsed abruptly as the tendon of an ankle parted under gnawing, needle-pointed teeth. A crimson, wriggling wave engulfed his struggling body.

Basil turned his head away. There was no need to, for the glassoid ball helmet was suddenly covered by swarming, frenzied lizard mice seeking to get at him. He knew the entire space suit must be covered with them. He shivered in involuntary horror. Would the space suit hold? He had banked everything upon it. The futile gnawing of their pointed teeth set up a whispering sound. He brushed away the vermin before his eyes.

The entire control room was acrawl with them, even to the smooth steel deck overhead to which they clung with their sucker feet. The crimson mound that was Morto was now stilled. Basil saw the door opening. The Martian petty officer was returning with the crew! Basil laughed grimly as he glimpsed the horrified faces of the men. Then the lizard mice swarmed over his helmet again, veiling the sight from him. When he brushed them off again, the sour-faced Martian and his companions had vanished and the lizard mice were pouring out of the control-room door into the ship.

Part of Morto's skeleton was already bared. Nauseated, Basil turned away.

He glanced at the controls, which were now deserted by the lizard mice, which were leaving him as well in their primordial urge to find food and to kill. The ship was still on its course. Then for the first time it occurred to him to cut in the outside sounding disc.

At once the big alarm gongs of the ship burst on his ears, and from the depths of the ship came the agonized screams of the dying crew. He glanced mechanically through the ports aft, and stared. A circular black shadow cut off the stars. The shadow dwindled swiftly. Another shadow followed, and last of all another. Understanding dawned. Space fliers! The crew still remaining in the forecastle had been warned by the gongs that the crimson terror was loose, and had abandoned ship in the space fliers doubtless kept just below the forecastle for such an emergency.

Going back to hunt up Corvus! Basil ardently wished he could have rayed them. By the way the loudspeaker had fallen silent, Corvus must be overhauling the *Death Head* in grim silence to carry out his threats. Basil glanced about the control room curiously. Alone on this death-ridden, black pirate craft hurtling out through the depths of space!

No, not alone after all! Those imprisoned members of the *Polaris*' crew might still be alive—if the lizard mice had not forced a way into the brig and destroyed them. There must be some way to rescue them. With their help to operate the *Death Head* he might yet be able to throw off Corvus' ship and escape. Better yet, they could escape in one of the space fliers! Hope surged high, as he eagerly caught up one of the gas fire extinguishers and hurried down into the depths of the ship.

Half an hour's searching proved conclusively that escape in a space flier was out of the question, for not one of them remained in the big craft. Downcast but still resolute, he sought out the brig, which proved to be a mere cell in the side of a passage far aft. Even there before the door the lizard mice skittered about in their fierce search for more victims.

Basil surveyed the passage. At either end there were doors—doubtles a precaution against any possible break for freedom by inmates of the brig, for which Basil was devoutly thankful, since it made the rescue of the imprisoned men possible. He noted that the air-ventilators were protected by a fine screen. He grinned happily and buried back up to the control room.

FROM the racks there along the side of the room he carried down to the door of the brig eight space-suits one after the other. Then he closed the doors at either end of the passage and set to work with the gas fire extinguisher clearing the passage of the lizard mice. After filling the passage thoroughly with the gas, he waited a quarter of an hour for the ventilators to remove the fumes to the air-purifier of the ship, positive that all the deadly vermin in the passage were killed. Then he unbarred the door of the prison room and entered.

Six men were waiting there, anxiously alert. They were all trained electrical and ray engineers, from their sleeve insignia. He grinned and loosened the glassoid helmet.

"Just another prisoner, like yourselves," he introduced himself as he removed the globe from his head. "We are the only men left alive on the ship. Martian lizard mice have eaten the rest."

Their eyes widened, and they pressed eagerly about him, bombarding him with questions. Swiftly he told of the fight he had made, and outlined his plans.

"No one can live on this ship without a space-suit," he explained. "And I have more than enough of them for all of you outside in the passage. Since there are no more space flyers aboard, it's up to us—to you—to get enough speed out of this old tub to run away from Corvus."

They shook their heads dejectedly.

"That's impossible," pointed out one man, a lean, gloomy fellow who gave his name as Sidler. "This craft is only about average at best, even with the modern machinery, while Corvus' ship is beyond doubt the swiftest craft in the Void. The heads of all space navies admit it. It is one reason he dares to venture inside the patrols of the four inner planets and make his raids."

"We can try, can't we?" retorted Basil.

"I reckon so," admitted Sidler gloomily. "If Corvus isn't actually within sight of us, we can stop the motors and generators, and so eliminate the electronic field that gives him our position on his tri-dimensional chart. Then we can use the emergency primitive combustion rockets to shove the ship off its present course, and perhaps vanish, while he continues on our original course, wondering what has become of us. But he's probably in sight of us already," he added pessimistically.

"Fine!" exclaimed Basil enthusiastically, ignoring the last remark. "Jupiter is off our port bow a few million miles. Maybe we can pick up Ganymede; that's my destination anyway."

The men hurried into their space suits. It developed that not one of them was versed in space navigation, so they settled that position on Basil, whose experience in the science consisted of a couple of vacation trips to the Moon in a space flier his father had given him three years before. He felt that he had enough knowledge to make a landfall on one of Jupiter's satellites.

The others volunteered for the different posts that they felt able to handle. A youth named Hinch, who possessed a sketchy knowledge of the nearly forgotten art of rocketry, undertook the responsibility of shifting the direction of the ship's flight with the primitive combustibles. Sidler took charge of the power room, and Smith undertook the responsibility of the ray artillery. The other three endeavored to try as best they might to cover the switchboard and inspection posts.

All agreed finally that they would communicate with each other through the speaking discs with which the space suits were equipped, and not use the ship's signal system—a practise that would be necessary anyway, as soon as the generators stopped.

Basil hurried back to his post in the control room, paying no heed to the clean skeletons of the pirate crew, that lay here and there along the passage, nor to the lizard mice that frequently swarmed up his space suit and tried vainly to force an entrance into his glassoid helmet.

As soon as he reached the control room, he cut in the outside sounding disc of his helmet and listened. The loudspeaker on the control table was silent. Corvus evidently had nothing further to say to Morto—scant good would it have done him to say it since Morto was dead. Corvus was probably hanging grimly to the pursuit to settle matters with him. It was too much to hope that Corvus might have abandoned the chase.

Basil turned the teleotroscope aft. The *Medusa* was not to be seen. He addressed the speaking disc at the base of his helmet.

"I can't see Corvus," he said. "The light of the sun should quarter on his ship at this angle. It seems safe to cut off the power and proceed with the rockets."

"O. K.," replied Sidler far down in the big generator room. Next instant the lights of the control cabin blinked out, and all the machinery of the huge craft ceased to function, save only the loudspeaker on the control table, which was now drawing its power from a special battery under the said table.

HINCH climbed out through an air-lock and walked along the outside of the hull, clamping on his rockets at regular intervals throughout its length, set them off, and climbed back inside again, while the long yellow flames of rocket fire leaped miles out into space. Basil watched a star creep across a glass port. Slowly, but surely, the rockets were forcing the big ship out of its course.

Abruptly the radio speaker on the control table hummed to life.

"Very clever, Thomas Basil," boomed the cold metallic voice of Corvus sneeringly. "But you've overplayed your hand. I have picked up the two space fliers from the *Death Head* with the remnants of Morto's crew in them, and learned that his little Martian pets got out of their glass cage and overran the ship. I had believed until this minute that you had been eaten with the rest, and I was ready to abandon the chase when I saw your lights go out, and saw the flare of your rockets. A clever idea to lose me, Earthling, but you are a trifle late."

Basil whirled about and stared at the star powdered blackness of space. How could that fiend see them when he couldn't be seen himself? Corvus uncannily read his thoughts across the Void.

"Doubtless you looked back for me, Basil, but I dropped below the Ecliptic when I first took up your trail. I'll be with you shortly. This time I shall not attempt to take you alive, for I have found another method of getting the information I seek from your father. And even though I should want to take you alive, I have no more room now. When Morto's crew arrived, I was forced to relieve myself of the *Polaris'* passengers. Even now their frozen corpses are trailing my ship like a flock of sheep."

"Sidler, Sidler!" cried Basil into his speaking disc. "That devil tricked us after all! He dropped below the Ecliptic and is somewhere under our stern. Start the motors again! Throw out the electronic shield!"

"It's no use," replied Sidler apathetically, and the sighs of the others in various parts of the ship could be heard. "Those ray guns of his will cut through the shield like a knife through cheese."

"Our own artillery is out of commission," interrupted Smith from the gun deck. "I have been examining it carefully. The insulating paint on the tripper springs of the discharging mechanism has been eaten off by the lizard mice. The best we can muster is a battery of a few super-rifle rays, which will be about as effective as squirting the *Medusa* with a water hose. It's all up with us. I wish my folks back home could muster up some ransom."

Basil's face flushed angrily. He was framing a hot retort when the lights flashed on. Sidler had started the motors again. Basil promptly grasped the equilibrator wheel and rolled the ship one hundred and eighty degrees on its fore-and-aft axis, a proceeding scarcely noticeable except for the shifting of the star-studded heavens without. Then he looked back.

Sure enough, there was the *Medusa* already more than first dimension size above and behind them now. Basil called to Sidler to crowd on every bit of power.

"I'll do my best," replied Sidler glumly. "But the left main motor has become badly polarized through neglect, and it may go to pieces."

Under normal conditions, Basil would have been horror-struck, for when an electronic motor—normally the safest thing imaginable—became polarized and went to pieces, the resulting explosion made one of those ancient powder ship blow-ups on the sea seem as harmless as the popping of a paper sack, but now in the face of their growing danger it seemed quite matter-of-course that the motor should turn into a menace.

"Give her all she can stand without cracking, Sidler," he said calmly. "It can't do any worse than cheat Corvus out of the pleasure of killing us, anyway."

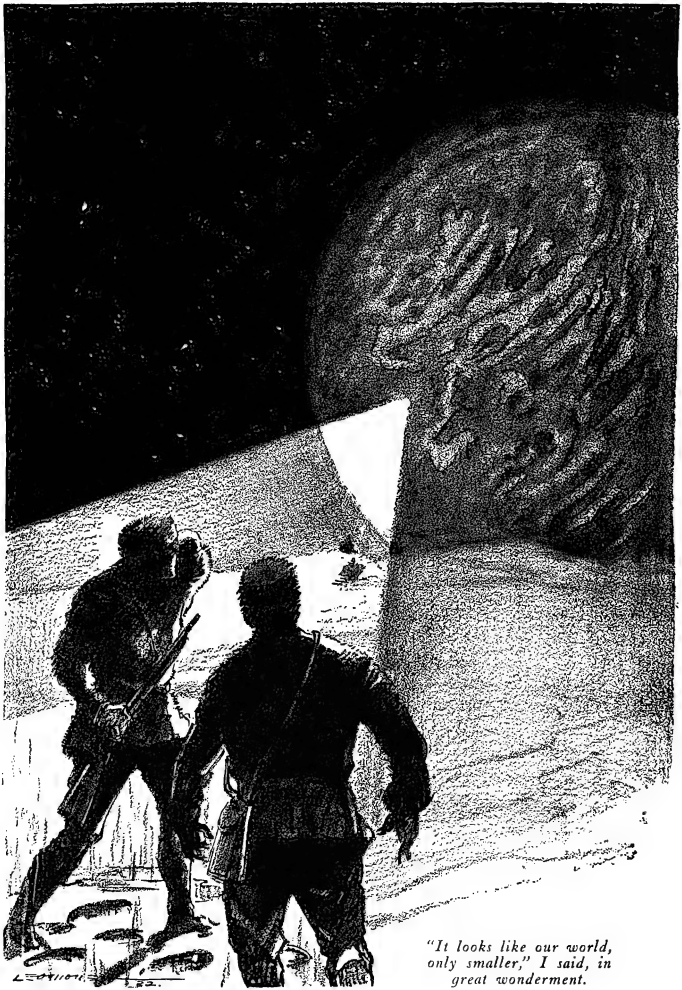
He glanced back at the *Medusa*, which was now football size, so rapidly had it overhauled them. Again Basil grasped the equilibrator wheel and rolled the ship ninety degrees. This brought Corvus' ship on the same plane as themselves, so to speak, off to starboard and stern. Then Basil threw in the electronic shield switch, which promptly set up a vague, misty mantle about the *Death Head* as protection against the rays.

Corvus promptly followed suit by throwing out his own electronic shield, and revolved his ship so that its bottom no longer faced Basil, but instead the two ships were broadside. A sheet of disintegrator rays flamed from his heavy artillery, darting across the miles of empty space and striking harmlessly against the *Death Head's* electronic shield.

Basil recognized it as a range-finding salvo. Corvus would have to swing the *Medusa* close in before his rays would penetrate the shield and strike the *Death Head*. In close! A plan flashed into Basil's mind, a plan so wild and daring that he gasped. He checked it over swiftly. Unheard of, incredible, yet there was a chance, one in a thousand, probably, of pulling out alive and safe. He glanced again at Corvus' ship, now edging gradually toward them and occasionally loosing a ray to test the strength of their electronic shield. Then he spoke rapidly into the speaking disc.

"Men, I've got a plan. It's a desperate one, Goodness knows, but it is our only chance."

(*Continued on page* 457)



"It looks like our world, only smaller," I said, in great wonderment.

Room for the Super Race

By Walter Kateley

Author of "Steam Heat," "The Hollister Experiment," etc.

PERSPECTIVE is something an astonishing number of us lack. The man outside the rails, or the man at whom an inimical campaign is launched, can generally judge right or wrong, and can see, with penetrating clarity, the true justice of a given situation. Change the perspective, however, and what have you? Yet the verdict in either case is honest and most sincere. But perhaps Einstein would explain it all in terms of relativity.

Illustrated by MOREY

WE thought it was Washington's Birthday; but we didn't know for sure, since we had no calendar and our watches had stopped several times during the early part of the long Arctic winter. But the exact date is quite unimportant. It would still be about a month before we could reasonably expect to see the sun rise.

I sat in our improvised shack, hunched over what served for a table, making my daily entry in my note book by the flicker of the goose oil dip. Suddenly the door flew open and Watson burst in.

I never saw anyone looking at a ghost, but I imagine he would appear no more puzzled or more terrified than my naturally genial friend did at that moment.

For a second he halted and stood looking down at me with eyes that in the dim light seemed fairly popping from his head. Then he flung himself down on the bunk and covered his face with his heavily mittened hands.

"My God! It's come!" he gasped in a tortured voice. "I'm seeing things. I'm losing my grip."

For a moment I was genuinely alarmed. There was, of course, the possibility that my stalwart companion was going insane. Many a man had lost his reason in the great Northern wastes under less trying circumstances.

It was perhaps to be expected that we might "slip" a little and become sort of "queer" before spring and daylight.

I was aware that we had been watching ourselves and each other for signs of queerness. But as yet I had not seen any in Wat (his name had never been more than "Wat" to me except for introducing purposes) and I hoped he had not seen any in me.

As I understood it from my reading and from personal observation on a number of frontiers, mental breakdown, caused by the vastness and lonesomeness of the wide open spaces, was always heralded by fits of bad temper, moroseness and the like. And Wat had not been at all depressed.

Only a few hours before we had been joking about our goose grease.

With characteristic humor he had argued that it was a pity such an altogether useful substance should not be blessed with a more euphonious name. From pigs, he pointed out, we got not pig grease or hog oil, but lard; and from cattle, no cow grease but suet. From sheep, not sheep grease but tallow. Then why "goose grease?"

He had laughed into a mock oration.

"My friend," he said, "there is an unfairness about this thing to which we, free and freedom-loving citizens of the great outdoors, ought not to submit.

"Here we are, in a world practically all our own, with an abundant supply of this life-and-light-giving material —and not much else—at our command. We use the un-

pleasant word for it over and over again. And why? Simply because it is a custom. The mere habit of men. A relic of barbarism.

"But I appeal to your sense of the eternal fitness of things! Is there any longer any reason why we, intelligent sons of the admittedly superior Nordic race, should submit to this slavish custom?

"Let us cast conventionalities aside and disdaining the precepts which are binding only on the puppets of Society, dispense with this offending word.

"What I am about to suggest is not revolutionary. It is merely a reassertion of our ancient right.

"At this time I am going to propose—and I am willing to stake my life-blood on the outcome of this issue—I propose that hereafter we say 'sap,' instead of goose grease."

Now, as this bit of whimsicality flashed through my mind, I refused to believe that my friend was losing his mind.

I spoke accordingly.

"If this is a theatrical turn, you're doing it well," I said.

"I only wish it were," declared Watson with a shudder, sitting up and looking at me fearfully. "It's an awful feeling. I am completely unnerved.

"I'll admit I've been afraid *you* would go balmy; but I felt sure *I* could weather it."

"What did you see, old man?" I demanded.

"I can't describe it. But it was as if—as if——" he groped for words—"as if the moon had turned dark and filled the whole sky!"

"Don't be a fool, Wat," I said encouragingly. "There are often strange light effects in these latitudes. Your hallucination may be quite easily explainable."

Hope dawned in his eyes. "Maybe *you* can see it," he said, leaping up, and fairly hauling me from my seat, he thrust me out of the narrow door.

"*Do* you see it?" he demanded, excitedly, hopefully, as I gained the open.

I REMEMBER his asking the question. But I have no recollection of ever answering it The sight that met my gaze out there in the cold starlight was one of the most surprising and altogether amazing spectacles that ever I, or anyone else, for that matter, had ever seen.

There, directly before me, and blotting out almost half of the sky, was a giant globe; almost touching the horizon and towering in its tremendous height until it nearly reached the zenith.

Its color was very dark; but it was illuminated here and there with points of light, some moving and some at rest.

At its closest point it must have been two or three miles away; but its vast size made it seem very near.

As I stood staring, openmouthed and spellbound, the thing seemed to float up a little higher above the dead whiteness of the earth, and then settle down again with the rocking buoyancy of a vast balloon.

There was a terrific smashing crash as it crunched down on the heaped up ice blocks of an ocean pressure ridge. Perhaps it was this sound more than anything else that caused it to lose its spectral aspect and become reality.

"It's moving," cried Watson, pointing at the thing as if I could possibly be looking at anything else.

"Yes," I agreed with what self-possession I could muster, "it's trying to land."

"*Trying?*" His voice was wholly incredulous. "You don't suppose it's *alive*, do you? Look! It's going up again!"

And so it was. The horizon reappeared below it, and as if drifting in a strong wind, it made a little bounce of half a mile or so, bringing it closer but not directly toward us.

For a moment the fear that it might descend upon us drove all else from our minds. Then, as it took another bounce, we saw that it was going to pass us by; and our dread of being wiped out was instantly superseded by the fear that the vast apparition was going to bounce away out of sight.

It crossed the coast line, marked now only by a few fragments of ice thrust above sheets of snow, and came again to rest on solid ground a few miles inland, its vast rotundity so near as to almost overshadow us.

"It must be a planet! An asteroid!" I gasped.

"I don't care what it is. I'm just glad it's something *real*. I don't know what to do with myself," Wat declared. "But there must be some one living in it, or on it. Look at the lights."

I had ventured out without even stopping for my coat —and the thirty-below zero wind was piercing me to the bone.

"I must get some duds on," I said, and made a dive for the shack. Wat lingered behind a moment and then followed.

"How big would you say the thing is?" he asked, as I pulled on my great coat.

"I should judge it must be around five miles in diameter," I replied. "It seems altogether too gigantic to be of human construction. I'm sure it's not of this world."

"It couldn't be a meteor or an asteroid, because if it was anything solid, it would have struck the earth with such tremendous force, it would have destroyed everything for miles around. Besides, it would have been red hot, on account of the air friction."

"Yes, I know. Theoretically, that's true," I agreed. "But I still think it must be an asteroid. There are known to be nearly two thousand asteroids, varying all the way from the size of a boulder to globes 500 miles in diameter. Eros, for instance, is quite a respectable planet. This could easily be an asteroid. What else could it be?"

"I don't know, Wat admitted, "but get on your togs and let's take the guns and go out."

I hesitated. "I'm not so sure," I replied, "that we want to go out. We don't know who is out there, or what they might do."

"Yes, that's right," agreed Wat, "maybe we had better think a bit. After all, discretion is the better part of valor," he observed with a touch of his old time cheerful philosophy.

"I wish we had a window, and that it was daylight," I ventured. "Then we would see what is going on. But if there are people there, they must be somewhat civilized," I reasoned. "Their many lights would seem to indicate that. And they must be actually *navigating* their little world! Think of that! That is much more than we ever thought of doing."

"Yes; but on the other hand, they may be intelligent yet not human in form. They may be highly developed birds or even ants!"

I sat pondering this with my coat half on. It was too deep a problem for me.

"But let's take a peek again, anyway," I suggested.

There was little more to be seen when we came out again. Only the great round shape, contrasting darkly with the snowclad earth and only a little less markedly with the star studded sky, was there. But we saw a great many lights, more than we saw before, and many were moving smoothly and rapidly, even as the lights of cars move on a highway.

"I suppose they have roads, automobiles and everything," Wat ventured.

For a long time we stood watching and shivering in the cold, but we could learn little by standing there. So we determined to have our lunch and set out on a reconnoitering expedition. Wat also suggested that we ought to write a brief report of what had happened and leave it behind us in the shack, on the chance that it might be found some time by our people in case we never returned.

Wat got out his notebook and started to write while I prepared the frugal meal.

Though I tried not to be superstitious, I could not suppress the feeling that this might be our last meal in the *hacienda*.

My excited mind went back over the high spots of the past year's events that had led up to the present situation.

* * *

MORE than a year before, Watson and I had started out to investigate the northern haunts of migratory birds, under the auspices of the Amalgamated Ornithological Society.

The first of July found us encamped on the low bank of Blue Moose Run, at a point where, as Wat so tersely expressed it, the river was ten feet deep and the mosquitoes ten miles deep. Such equipment and provisions as we had were lodged in our rather cumbersome canoe.

Close by was a settlement; a general store, a few native huts, a summer camp for sledge dogs and a fish wheel.

But most important of all, was the *Clara May*, a small, single-masted sailboat which was waiting to make her annual trip to the famous Goose Coast region to bring back a cargo of goose meat—a commodity much esteemed as feed for dogs.

Arrangements were soon made with the skipper, a swarthy half-breed Indian. The next fortnight we spent sliding down the river; sometimes sailing, sometimes rowing with the long oars; weaving in and out among the low islands after reaching the crooked coast.

Arrived at length in the region, which had been described to us as the most frequented of all northern nesting grounds, we found geese in countless numbers.

They were swimming, wading, flying and honking, until it seemed as if the whole world was infested—yes, swamped with them.

We landed on a low, flat shore—all the shores seemed low and flat—and here we made our summer camp, leaving the *Clara May* anchored a little way out in the bay.

It proved to be an ideal locality for observing the life and habits of not only wild geese, but a great many other migratory birds. Among the most fascinating of these were a number of tall, stately white cranes which inhabited the shore of an inlet a few miles away.

The securing of cargo by the hunters appeared to partake much more of the nature of harvesting than sportsmanship.

It was, however, the time-honored method which had been in vogue along far northern coasts for a great many years, and which is taken as a matter of course by the natives.

We had an excellent opportunity to record the exciting details of how they herded the great flocks of moulting geese into enclosures of nets, or seined them out of small inlets and then pounced upon them and knocked them down with clubs, since the birds had no proper feathers with which to fly.

The natives buried their catch each evening at the bottom of a trench sunk to the level of the ground-frost—at this point about four feet deep in summer.

When after a few weeks they had as many geese in their unique cold storage as the natives estimated it would take to load the tiny ship, they rested and waited for cool weather.

Later, while Wat and I were making a three day excursion inland to investigate the flora and fauna of the district, the expedition must have decided to sail to some nearby islands, which could be seen with our small glass and which the skipper had been anxious to visit.

We returned just in time to see the small craft caught in a gale and foundering in the breakers.

Before we could reach the shore, she had broken to pieces and all hands were lost.

One of the most vivid memories of my life time is of the horror and utter desolation of the moment when I realized that all but we two had perished; that even our ship was gone, and we were left stranded in the lonely wilderness of this uninhabited shore. But there it was. It was but a part of the bitter relentlessness of the far North.

Horror, desperation, despair may bite deep into a man's heart; but they do not stop its beat. In fact, in the Arctic, the tenacity with which both men and animals cling to life is so phenomenally great that nothing short of utter annihilation ever seems to snuff out the spark.

There was nothing to do but to face the inescapable prospect—an Arctic winter with deep snow, wild winds and temperatures of 70 or 80 below; and over all, the long, long months of unbroken darkness.

We decided to stick close to the coast, in order to make the most of the meagre, almost hopeless chance that a boat might pass and pick us up—and to prepare for winter.

Our preparations were pitifully unpretentious. Some wreckage and a few tins of provisions had been grudgingly given up by the waves, and these we gathered. Then with sods and stones and pieces of the wreckage, we managed to build a little hut, before all was covered with snow.

WHEN the long winter night set in, our existence became a thing very much like hibernation. Perhaps once a day we ventured out for a little necessary exercise, and to tunnel under the snow for another cold storage goose, or to look around at the awful wastes of unbroken snow, which were sometimes visible under the stars, between blizzards.

We had little fear of actual starvation, since our supply of meat was practically inexhaustible, but we did fear sickness due to our limited diet. And though we

said but little about it, we both feared—well—I have already told you what we most feared.

* * * * *

——"I don't know whether we ought to take our guns or not," I said, as we were pulling on our coats. "Perhaps it would be better to go out unarmed."

"We shall be seen as soon as we leave our doorway trench; and if they are intelligent enough to navigate their whole world, they will surely know how to combat our guns."

"Well, we needn't do anything rash," Wat argued. "We can carry them, and only use them if it seems advisable. For my part, I want my gun and my knife. Then if the worst happens, I can die fighting.

"You know the exhilaration that comes from the excitement of fighting goes a long way toward banishing fear. Dying isn't so bad. It's the fear and dread one experiences when he is about to be extinguished that I should like to avoid."

I yielded to his philosophy and we ventured out.

There seemed to be no change, except that the weather had moderated somewhat. It was still clear, but not very cold. I mean not very cold for the Arctic.

After standing a few minutes and looking at the tremendous globe with renewed awe and fear, we set off across the snow toward it.

It was farther away than it looked; and half an hour's walk over the crust of the deep snow seemed to bring it but little nearer. Suddenly a beam of light shot out from the gloom high above us and near the middle of the ball.

"A searchlight!" Wat exclaimed.

We stopped dead in our tracks. The beam flashed about in the sky for a moment and then came down to earth, lighting everything it touched with an appalling brilliancy.

It marked out a great circle of bright light slightly tinged with yellow and rimmed with a narrow band of cobalt blue.

With demoniac swiftness and buoyancy this patch of light flitted about like some giant playful moth; now here, now there.

One moment it revealed the sparkling ice blocks of an upturned pressure ridge far out at sea; the next, it picked out what was visible of our snow-piled hut.

It was a most fascinating—and alarming—sight.

Presently the spotlight returned from a long tour out in the distance and came to rest again on our hut.

"They've found the *hacienda* all right." Wat's voice shook with fear—or maybe cold. I felt a sinking sensation in my interior, as the ring danced before us for a moment and then encircled and nearly blinded us with its terrifying brilliance. The beams seemed to rebound from the white snow; to smite our eyes like something tangible and vindictive.

We had hardly time to close our eyes and cover them with our thick mittens until it was gone.

Our relief was but momentary. I had barely expressed the hope that "they" had not seen us, or else were not interested, when back it came. This time it came to stay awhile.

It remained, I imagine, a full minute; and since we had not seen it linger anywhere else more than a few seconds, we could no longer doubt that we had been discovered and were being carefully observed.

Not knowing what to do, we stood still and waited, only cautiously removing our hands from our eyes now and then to find we were still covered. When at last the beam moved away, it was with great relief that we peered into the gloom now rendered doubly dark by contrast.

"I feel warm," said Wat. "Do you suppose there is heat in that ray?"

"Maybe it's just the excitement," I ventured. "But I don't like this."

"Let's get back to the cover of our shack. If they want to see us, let them come to our place."

"Agreed," was Wat's laconic rejoinder, and we started.

In a flash, the light slid back, but we covered our eyes and trudged on. Although the light left us now and then, it constantly returned.

"It *is* hot," Wat declared. "I'm sure now."

I was convinced. By this time I was reeking with perspiration, and the air, as I drew my breath, seemed warm, almost sultry.

I pulled off my mittens and found, that by holding my hand before my eyes with the fingers slightly apart, I could see ahead of me, although somewhat painfully. The light was moving along with us, keeping us near the edge of the circle; but now I saw the cobalt blue outer rim was growing paler.

Of a sudden, steam began to roll up all around the ring. When it first rose, it seemed blue, but as it drifted away, it became frosty white outside the ring and a pale yellow inside.

Had it not been so terrifying it would have been a beautiful sight. Wat gave an exclamation of amazement, and we came to a halt. In a moment the snow in the outer blue ring was melted to the ground, and even the snow under our feet was turning to slush. I was undecided what to do, but Wat pulled his heavy cap down over his eyes and started forward again. I followed.

The circle, instead of moving with us, remained stationary. Wat, now a rod or two ahead of me, made a rush to cross the outer ring, but he floundered in the slush and fell.

Before he could get up, the ring withdrew a little way. Wat turned back scorched, wet, and disheartened.

"What shall we do?" he shouted in desperation.

"There is nothing we *can* do," I admitted, pulling him further back from the scorching heat. "We are penned in."

Just then, to our relief, the circle enlarged, and the blue line receded to a considerable distance on all sides.

WE were so overcome with the heat that we could only stand and pant and wonder what was going to happen next. Our guns were still slung on our backs, and our heavy clothes, now soaked with perspiration, were hot and steaming.

The steam from the melting snow softened the light and brought some relief to our eyes, which were almost blinded by the powerful light.

Our respite from the heat proved to be but temporary, for we soon saw that the ring was moving back toward its source, thus bringing the blue, hot rim closer to us. There was nothing to do but withdraw; and as we did so, the blue circle followed.

"They're forcing us to come to them," Wat reasoned. "We may as well go cheerfully; they have us in their power."

So we struck a good pace and soon had the satisfaction of seeing the outer ring gradually turn again into cobalt and then disappear. But the light circle stayed, and we felt that any attempt to halt or turn back would be futile.

"I wonder what they'll do with us," Wat worried. "I hope they're not cannibals!"

"Oh, I think they must be civilized," I declared with a confidence I hardly felt.

At length we came close enough to the great ball to make out details. The whole surface was lit, although not very brilliantly, with a multitude of small lights; and by their aid we could make out roads, villages, fields, and one quite pretentious city clustered round the spot whence the searchlight ray emanated.

"It looks like our world, only smaller," I declared in great wonderment.

"Yes; it must be a small planet; a what-do-you-call-it—an asteroid," Wat agreed. "But *why* don't the houses and things fall off it?"

"I don't know," was my answer, "but we'll probably find out soon enough."

There came to our ears a faint sound as of many slow, rumbling machines. Meanwhile our escorting light had halted, and we had halted with it, not knowing what else to do.

"I hope they don't have to hold a conference to decide what to do with us," Wat complained peevishly. "I'm getting cold, since they turned off the heat."

We were rather relieved than otherwise when we saw a dim pencil of light extending toward us again a few minutes later, from a point far back under the curvature of the globe.

The beam grew longer and longer, and soon we made out some sort of dark object moving along over the snow.

"Our host is sending the carriage for us," Wat hazarded with a touch of his old humor. "I hope James doesn't spare the horses."

We were soon able to discern a kind of motor machine of light construction and caterpillar-like traction. There seemed to be no one on board, except the driver, who sat bolt upright on a high front seat.

"Maybe we could capture the driver and hold him as a hostage until we could come to some understanding," Wat suggested.

"What could we do with him?" I asked dubiously. "Take him back to the shack? But how about the ray?"

"And I'm nearly frozen. Unless we both want to pass out with pneumonia, we had better get somewhere——"

Wat ignored me. He unslung his long goose gun and held it under his arm. "Well," he said, "we could make him go on ahead. They wouldn't want to burn him . . . "

A moment later the conveyance came into the circle of light and drew up a couple of rods away from us. Wat started to raise his gun to cover the driver. Then he lowered it again with a gasp of astonishment. As the supposed man turned toward us, we realized that it was no real person; it was a mere mechanical contrivance; a gun metal-colored robot.

The thing waved a stubby arm in an inviting but awkward gesture toward the low seat in the rear of the car.

Wat hesitated. "Come on," I urged. "We can't stand here and freeze. We may as well make the best of it."

Unslinging my rifle, I mounted to the seat, and my companion followed reluctantly.

"You're too trusting," he complained. "You don't know what you're getting into."

"Don't you see what we're up against?" I replied. "It's no good being obstinate or foolhardy. I'm willing to put up a fight when there's a chance to get anywhere, but this is hopeless. . . . I wonder if our driver can talk. Let's see."

"What's the name of this place?" I asked, raising my voice and shouting at the robot.

There was no response. The thing seemed busy driving the machine which clambered over the snowdrifts, only occasionally breaking through the crust. There was only a slight whirring noise, as of some light motor running under our feet.

The machine hurried back the way it had come, and we soon found ourselves close under the deep shadow of the globe and rapidly approaching its seat, where it rested quite lightly on the earth, without any perceptible bulging or flattening.

Of a sudden, the bone-piercing cold wind gave way to a delightfully warm atmosphere, as we came to a narrow curved runway like that often used to convey boxes of goods in a warehouse, or for playground tobogganers.

As we ascended this, we had a curious sensation of lack of weight. Instinctively we caught hold of our seat, to keep from going—we knew not where.

WHEN, after a moment, we found ourselves still seated in the car but almost upside down on the surface of the globe, we experienced a most peculiar and disconcerting feeling of transition; a reversing of the directions of up and down.

It was like the sudden righting after having lost the sense of direction and being "turned around"; a feeling which I believe is familiar to almost everyone.

Sometimes, for instance, one gets the impression that he is going east when he is really going west. Then he arrives at some locality with which he is perfectly familiar. The world seems abruptly to swing around as if it had suddenly discovered it was all wrong and wished to right itself. In a moment the feeling has passed, and all seems normal.

It was so with us when we felt the weight of our bodies settle heavily down to the seat again, and the surface of the globe, which had been above us suddenly became solid ground beneath our feet. Looking up, we saw the unbroken white of the earth's snowy surface stretching away in the gloom. It seemed now to be sitting up partly on one edge and slanting low above us, hiding all but a little of the sky; a small segment down near our new horizon, where the stars still shone with their old brilliance.

"What's happening?" Watson gasped in a hoarse voice. Wonder, terror, incredulity and despair were all crammed into those few words; and they reflected my own reactions so perfectly that I felt it was not for me to make any answer.

A moment later the explanation seemed clear.

"I suppose," I reasoned, "it's only a matter of the location of the center of gravity. Before, our center of gravity was the center of the earth. Now it's the center of the planetoid." I was hardly aware that I had spoken my thoughts until Watson responded.

"Yes; I suppose that's right. But wasn't it an awful feeling?"

The next morning we came to a halt under some widespreading trees that bordered a narrow, smooth highway which wound across a green park and disappeared in the distant gloom, a gloom relieved to some extent by high overhead lights. These lights didn't appear to be mechanical lamps of any sort, but just points of incandescence suspended in the air.

Our driver climbed down from his high seat clumsily and noisily, his metal parts moving jerkily and spasmodically. A little way off was a low, round tower from which issued the ray of light that had followed along with our machine, and which was still focussed on the robot driver as he hurried to a car standing beside the road.

This car was not of the tractor type, but was mounted on small frail wheels, which seemed entirely inadequate to support the body, which was nearly as large as that of the ordinary automobiles in which we had been wont to ride before we left civilization.

Another robot was already perched on a lower seat at the rear of this vehicle.

Our driver mounted to the high seat and motioned us to follow.

"Well, anyway, this is better," Wat declared with mock relief. "We are going to have a footman now."

Presently we were gliding along the smooth road; and our fears of what was about to happen to us were almost imperceptibly giving way to feelings of interest and curiosity.

It was indeed a strange little world we had come to—or rather that had come to us.

"It's funny how we're hanging *under* the earth, instead of being on top of it, isn't it?" observed Watson. Looking up, we saw that the snowfield was gradually upending and that much more of the sky was visible.

"We are not really hanging under the earth, any more than we were a few minutes ago," I explained; "but the pull of gravity decided which way is down, and since 'up' is in the opposite direction from our new center of gravity, the earth seems to be 'up'. That its position seems to be changing and upending is due to the fact that we are rapidly coming around the curve of the planetoid, and are seeing it from a different angle."

"Yes," agreed Wat. "That's just as clear as mud. You can't help the way you feel."

MEANWHILE the sound of machinery was growing more impressive, and seemed to proceed from underground.

"Maybe this whole thing is one vast machine; a flying machine of some sort," Wat suggested.

"No," I said, "I can't believe it. This globe must be at least five miles in diameter. No one could build a machine of such a size. Besides, don't you see the trees and grass and this paved road? It *must* be an asteroid. I am anxious to see some of the people. I wonder where they are! They must be human; otherwise they wouldn't have man-shaped robots."

"Let's not even *try* to think," said my companion whimsically. "We are so damned ignorant. We might just as well simply wait and see what happens."

The atmosphere was warm and balmy, and the smell of growing things was not unlike that of an evening in June. It was a most delightful transition from the world of snow and Arctic cold we had so recently left.

"I *still* think I'm crazy, and you're just going along," Wat declared, taking off his heavy cap and opening his greatcoat. "But I don't think I shall bother to see a doctor."

Just then we met another car, coming around a bend in the road.

It passed us, London style, to our right. It was much such a car as we were in, with a large driver's seat in front and a lone footman or tiger shelf on the back, both seats occupied by robots similar to ours.

But in the passenger seat were two shapes, which, as nearly as we could make out in the twilight, especially pronounced here on account of some large trees, were not greatly unlike ordinary people.

We saw them but an instant as they shot past and disappeared.

"People," breathed Wat with a sigh of relief.

"Yes," I agreed, "real folks."

One side of the road was quite heavily wooded and there were some high hills and banks. On the other side were only a few trees and small shrubs, and it was from this side that the beam of light always played upon us.

Once we halted and waited a minute after rounding a turn, until a beam of light coming from somewhere far ahead of us searched about and picked us up; then we moved on. The old beam was gone.

We shortly turned from the road into an open space brilliantly lit and resembling a landing field. Along the far side was a row, or rather cluster, of low buildings with glass fronts.

We stopped beside a low platform, out of which rose a great hornshaped device that I took to be a sound magnifier.

As we dismounted, one on either side of the car, we carried our guns in our hands.

A voice, deep and rumbling, came from out the great horn:

"The strangers will give their weapons to the robots!"

"Do you hear that!" I exclaimed. "They speak English." At the same time I handed my rifle to the robot coming up from the rear.

"Don't give it to him!" shouted Watson. But he was too late. I had already let it go.

"What do you want to give them your gun for? They don't get——"

"The strangers will give their weapons to the robots," the thing roared out loud enough to drown Wat's voice.

"Aw, shut up!" snapped Wat. The robot carrying my rifle passed round in front of the car.

Wat turned from the loud speaker to me.

"I'd like to know where——"

"The strangers will give——" Bang!

WAT had suddenly whirled and fired the great eight-gauge full into the open horn, which resounded with a tremendous vibration that almost broke my eardrums, and toppled. "You fool," I shouted, half in terror and half in disgust. "What are you doing?"

The robot, who was approaching with his hand out for the shotgun hesitated a moment, and then came on.

Wat lowered the goose gun to his hip and stood facing him.

(I speak of the robot as "he"; "it" is inadequate.)

When the muzzle of the gun was less than a foot from the robot's middle, Wat fired the other barrel.

The robot stood erect for a fraction of a second, and then doubled in the middle and crumpled forward, my rifle in his hand, for all the world like a soldier going down in a charge.

As the echoes rolled back from the nearby buildings, Wat "broke" his gun and shoved in two more of the heavy duty shells.

The driver robot, who up till now had remained on the car, suddenly hopped to the ground and made for Wat.

Wat, the crazy idiot, thrust the muzzle of his weapon almost against the iron front and let go. The robot toppled to one side and fell over against the car.

Almost at the same instant two or three robots appeared from the direction of the buildings, running clumsily toward us.

"Here! Get your rifle and help me!" Wat's voice was high and shrill with excitement.

He stooped to wrest my rifle from the hand of the fallen robot. It would not come loose.

The foremost new robot was almost upon him. Wat straightened up just in time to dodge the onslaught and let go at the thing's vitals.

It fell across the first one with a clang as of heavy armor.

"That's his weak point," Wat shouted, "right in his middle!"

Now galvanized by excitement into emulation of Wat's tactics, I rushed in and attempted to twist my rifle from the grip that still held it like a vise.

"Booom—boom—booom—" the old goose gun went behind me like a young cannon as I struggled. But though I twisted and wrenched the gun, I made no progress.

"Look for something to pry it with," urged Wat. "Here come more of 'em—look out!"

Amid the almost continuous roar of the 8-gauge, and in the thick smoke, I groped round the car, hoping to find something I could get loose to use as an implement.

All at once there was a quick clatter, and I caught a glimpse of a great mass of something above our heads. It seemed a great blanket of loosely held together boards, which was descending upon us.

In the midst of a crash I was knocked down and pinned to the ground. After a feeble struggle, I lay still, scarcely able to breathe for the weight on top of me.

After a while—only a few minutes I imagine—I heard voices; and presently I was dragged out and placed on my feet. The lights were out now, all except the one ray that came from the tower nearby. Dimly I saw three men; real men, not robots this time.

The newcomers conversed in some strange language as they tested my arms to make sure they were not broken. Then a tall robot appeared. In his hand was something resembling a heavy horse shoe.

This was slapped around my neck, and I was half led and half pushed across the open space, past some shrubbery and over a bridge, to arrive in a few minutes at a large building. Like the other ones we had seen, this was made largely of glass. The robot opened a heavy glass door and thrust me inside. Closing the door he stalked away.

I was tired, weak and bruised; and utterly helpless. Looking about, I saw a low partition of some dark material, beyond which was a dim light. Throwing off my hot, heavy outer garments I flopped down on a spacious couch, and almost at once was unconscious in a sleep of utter exhaustion.

SOME hours later—I had no idea how many—I woke with a start at finding myself in such a strange place. After recalling what had happened and where I was, I got up with difficulty, owing to my stiffness, and proceeded to bathe my bruised and sore body, wondering the while what had become of Watson. I feared he might have been killed by the crash, or at least badly injured.

I seemed to be alone. Outside the glass front of the building there was artificial light nearly as strong as ordinary daylight; and I now saw that one end of the large room was filled with an outfit of quite ordinary office furniture; one high and one flat-topped desk, a number of chairs and some other objects that I could not identify.

Outside, the ground was a green lawn; and presently a robot appeared, leading a fluffy little white dog by a blue ribbon; an active, playful little fellow, who frisked here and there as far as his tether would allow. I could have burst out laughing at the incongruous sight, but I was in no mood for laughter.

A scarcely perceptible beam of slightly yellowish light came from somewhere in the distance and followed the robot, somewhat discoloring his gun-metal lustre.

From a clump of trees two people emerged—a man and a woman. The man, who was of medium height but of rather slight build, wore a fluffy dark colored costume, about the shade of a bronze turkey. It was a single garment and covered as much of his person as a one-piece bathing suit. On his feet were low, open-laced sandals. His head was bare, and he had a sparse growth of fiery red hair.

His skin was fair and light, as was that of his shorter, plumper companion, who was dressed similarly, except that her costume was pure white. Her hair was light brown.

With leisurely, aristocratic movements they followed the dog, apparently conversing, although no sound of voices came through the glass walls.

As they passed out of sight beyond some shrubbery, another robot appeared, bearing a large parcel and a tray.

He fussed a moment, evidently undoing the fastening of the door to my retreat. Then he stalked in, set his tray and parcel down on the flat-topped desk and with a stiff salute withdrew.

The tray was laden with three or four dishes of unrecognizable food, and on the parcel was a typewritten label, which read: "The director desires an interview with you shortly, and also requests that you wear those garments, since you will find your own too warm."

I ate some of the food with little relish; some sort of cereal, like bran, it was, and two or three other dishes that might have been concocted of eggs or cheese or most anything, I thought.

In the parcel I found one of the fluffy garments of bronze color, such as I had recently seen on the passing man, and a pair of heavy-soled sandals. The garment I found was made of either real or very clever imitation feathers, fastened securely to a lining of elastic netting.

"A fine chump I'm going to feel in this thing!" I thought; but I struggled into it. The garment buttoned at the top like a bathing suit—and I found it very light and airy.

The air was warm, almost sultry, and I really felt grateful not to be wearing my Arctic clothes.

There came another robot—or perhaps the same one—they all looked alike to me, except that occasionally one was much taller than the rest.

He stalked noisily in and picked up my discarded clothing.

In alarm lest he should go away with my watch and other valuables, I made haste to snatch the garments away from him. But his metal talons had clutched them so tightly, I could do nothing. He turned and started to walk out.

I ran alongside, frantically rifling pockets in coat and trousers, and succeeded in retrieving my watch, purse and some papers, before he opened the door a little way and slid through.

As the door banged behind him, it caught a sleeve of my heavy blue shirt in the jamb. The sleeve stretched to a great length and tore in two; but he strode on unmindful, clutching the remains of the ruined garment.

I tried the door. It was locked.

Laying my salvaged belongings down on the table —I no longer had any pockets—I sat down to think. What had become of Wat? What sort of world could this be? What did they mean to do with me? A thousand other questions rushed into my befuddled brain.

After perhaps an hour, one of the very tall robots came in, carrying a metallic instrument. I recognized it immediately. It was such a one as had been clasped round my neck a few hours earlier. I was just debating the advisibility of trying to dodge the thing, when he presented me with a note.

"Please allow the machine to escort you to the director."

So sometimes they called them robots, and sometimes merely machines. But how had these people learned English? Could it possibly be anything but an asteroid from far out in planetary space?

The machine beckoned me to follow and walked briskly out of the door, leaving it open.

I followed. Once in the open, I took stock of my surroundings.

THE stars were shining brightly in a clear sky. The ground was so sharply curved that the horizon was only a few rods away, while to the left was a great dim white wall, standing almost perpendicular and extending as far as the eye could penetrate the gloom. I recognized this as the snowclad surface of the earth, from which I had so recently arrived. It was with difficulty that I adjusted myself to the thought that a new center of gravity could effect this illusion.

We had not far to go. A few minutes' walk brought us across a park-like space, where a few grown people stopped in their walks and a few sprightly children ceased for a moment from their play to stare at me. We came to another large, glass-façaded building set among tall trees.

Entering this, I followed my guide across a wide, tile-paved floor and came to a well-lighted space in the middle of which was an elegant office table and two chairs. Here we halted.

In a moment a man came out of the gloom at the back of the great room.

"Permit me to introduce myself," he said with brisk cheerfulness, "I am Doctor Good, official director of public affairs. Won't you be seated " He motioned to a chair and smiled most engagingly.

He was of slight build but muscular, and his middle-aged features were finely moulded and regular.

"My name is Tower," I said, with little enthusiasm for the interview, "and my position is that of prisoner, amid a people who seem to be strangely lacking in all human courtesy."

He seemed taken aback by this statement. Sitting down slowly, he looked steadily for a long moment at the bare top of his desk.

"Yes," he said, brightening again, "I know it must seem that way to you; and I may as well admit that you have been handled with very little consideration. I cannot well apologize, but I will presently explain."

"I have chosen to deal with you rather than with your companion—what is his name, please——?"

So! Watson must be alive! This was heartening. The director drew a pad and pencil from a drawer.

"Watson," I supplied.

He jotted it down.

"As I was saying, I have chosen you because you appear less impulsive and more reasonable than Watson; and in this matter that I am about to propose, we must have a careful weighing of values.

"In the first place, I want to say frankly that our mission here on earth is not friendly to your people. Rather we are acquisitive and desire primarily our own advancement. I think entire frankness helps in coming to an understanding. Don't you?"

"Yes, certainly," I agreed, somewhat sarcastically.

"Well, I am going to be entirely frank with you," he went on pleasantly. "I am convinced that our motives are entirely beyond reproach and we have nothing to hide.

"Although we are not a very numerous race, we have made a great deal of progress in the things that make for a higher civilization—space flying, mechanical invention, physical chemistry—in fact, all the arts and sciences.

"In a word, we feel that we are a superior race. We have, if you will pardon the egotism, gone far ahead of your people on Earth."

He waited, evidently expecting me to speak, but I maintained a discreet silence.

"You have some relatively inferior races in your South and in the various tropic countries?"

I agreed.

"Do you treat them—as equals?"

"Well, no. Not exactly as equals, but we accord them the consideration which seems due their station in life.

"Long experience has taught us that it is not to the best interests either of ourselves or of the lower race, to assume an equality where none exists."

"I see you take the reasonable view," said the director; "and that brings us back to the subject of our treatment of you. We are the superior race; and while we intend to treat you fairly, and accord you the respect due your station—that is, intellectual station—we will refrain from treating you as an equal; we believe, very properly so.

"That is, at least in part, why we chose to take you prisoners intead of receiving you as guests. Moreover, we did not care to expose our collective conscience to the charge of treachery."

"I wish he'd get to the point," I thought.

"Since we are definitely committed to a program of inflexible domination, it would hardly be fair to welcome you as guests on terms of equality and later on show our real purpose. My position will be clearer when I tell you what we propose to do.

"Briefly, we intend to take possession of the Western continent; North America first and a little later South America."

I was too astonished for coherent speech .

After a mementary pause, he continued: "In order to do this, we are prepared to force the entire present population to vacate. We wish to accomplish this as humanely as possible.

"On the other hand, we will bring to the enterprise whatever firmness and severity seems unavoidable."

Still I sat staring at the man in speechless astonishment. At last I found my voice:

"My God! It's impossible. Think what you're saying! It would be utterly fiendish!"

The director smiled indulgently.

"On the contrary; from our point of view, it is perfectly justifiable. It is necessary for our further development."

"It can't be!" I protested hotly. "There can be no justification for such a colossal outrage!"

"I don't know what your morals are; and I don't know whether or not you have any religion; but I had supposed that all human beings had some conception of justice and fair play."

"Yes," agreed the man, smiling genially, "at least we have the same notion; I think we may call it an axiom."

"Well then," I argued, feeling that I was gaining ground. "Can you claim there is any justice in what you are contemplating—driving a hundred million people from their homes and their country? A hundred million people who have never harmed you in any way! People, in fact, who know nothing of your existence!"

He laughed easily. "It does seem a little high-handed when you put it that way, but there is justification."

"I deny it," I declared stoutly.

"Let me ask you something. How did your people come to have this fine country?"

"Why, our ancestors discovered it, and acquired it by colonization."

"Was it entirely uninhabited?"

"No, it was not entirely uninhabited," I admitted, feeling that I was getting into deep water. "There were a few wandering tribes who made no use of the land except to hunt and fish over it."

"Where did you get your corn—maize, I mean—your potatoes and tobacco?"

"Well," I hedged, "we got them from the Indians; but they never raised them to any great extent; not as we raise them."

"I see." remarked the director chattily, with the air of a physician trying to put a patient at ease.

"And I suppose, when you realized they were of a lower order of intelligence, you felt it was your duty to use your superior weapons and mechanical devices of various kinds to drive them off the land, in order that it might be properly utilized?"

"I suppose that was about the way of it," I reluctantly admitted. "But so long as the aborigines withdrew peacefully they were not molested. And there was always plenty of land. Even when they were put on reservations, there was enough land to support them in real comfort if they cared to work."

"Now would you say," he resumed blandly, "that the ability to make superior weapons is the best test of a higher intelligence?"

"It has been so considered by some," was my reply.

He seemed to digress. "Do you hold that your people did right in coming to America, or do you think they should have stayed in the old country?"

"Well," I answered, after a moment's thought, "the method of dealing with the Indians was often harsh and unsympathetic, and I think a better way could have been found in most cases; but I suppose for our ancestors to have stayed away entirely, would have been unfair to the world at large."

"H-m-m;" said the director, considering me; "it seems to me your mind is perfectly normal in the matter of what constitutes justice. Your ideas are quite the same as our own. I don't believe we are going to encounter any serious difficulties.

"Now, let's see. I suppose even if it were to be done all over again, and in a better and more humane way, it would still be for the whites to determine how the Indians were to be—er—disposed of?"

"Yes," I agreed. "The Indians couldn't be expected to do that."

"Well, now suppose you put yourself in the place of some intelligent Indian of one of the leading tribes, during the time of the wars for the possession of the country. . . . Suppose you were of red color, but as intelligent and well informed as you are now. What would you have done?"

"Well, really, that's a pretty hard question to answer," I objected.

The man smiled rather indulgently. "Do you suppose you would have favored war, in the hope of winning out?"

"No. Having intelligence, I would naturally have seen how utterly hopeless it must be to fight on. I suppose I should have been in favor of making the best terms possible with the whites."

"You would have moved when they told you to move, and taken to the white mode of gaining a living when it became necessary."

"Knowing it to be inevitable, yes."

"Well, would that have been entirely honorable and defensible from a moral point of view, even though it seemed almost traitorous to your more ignorant fellows?"

Fearing more and more the trap into which the conversation was leading me, I replied "I can't see why it wouldn't."

"YES. Well, that seems to put us on a solid footing now, and we approach our problem with the assurance that we will not disagree as to right and wrong.

"Now let us consider for a moment that history is repeating itself. We of this asteroid discover America and decide that we can make better use of the country than the present population. We have a right to think that, haven't we?"

"Naturally," I agreed.

"We decide," he went on, "that the present population ought to move away and make room for us, because we are a race of superior intelligence. If they refuse, it becomes necessary for us to insist. If they make war, we shall have to conquer and move them by force."

"Wait," I said. "The two cases are not parallel. I am not willing to admit the superiority of your intellect."

"You saw the weapon we used to capture you and your friend, and you have had time to consider its war possibilities. Do you think for a moment that your people have any weapons that could possibly cope with it as a fighting engine?"

"I am not sure about that," I argued. "I am not sure but that they have."

"In case it should be proven that this weapon of ours is superior to anything your people can bring against it, would you be free to admit that they are of a lower order of intelligence, and that they ought to submit to our wishes?"

"I might admit the futility of war," I replied, "but that is all. And you would have to show me."

"We will demonstrate," he declared.

"But—but—but how *can* they move? There is no place for them to go. The other countries wouldn't admit them. Most of them are already overcrowded."

He ignored my protest, replying only "I imagine it will be necessary for us to teach you better and easier methods of production. . . . We have a population of a thousand here on our little asteroid. At that rate, the eastern hemisphere is rather thinly populated.

"We will consider that later. Now comes the real test of your character and intelligence." He was very earnest.

"I am offering you an opportunity to cooperate with us in an attempt to evacuate the continent of America with as little bloodshed and tragedy as possible.

"You can, if you will, help your people materially, by urging them to accept the inevitable and go quietly.

"It is hardly necessary for me to point out the difference between an orderly withdrawal, with plenty of ships and other transportation, with accommodations in other countries already arranged for, and a pell-mell, disorganized hegira of the separated, defeated, fear-stricken remnants of the population, impeded with their sick and wounded and without any adequate transportation, trying to reach and land on hostile shores."

"Why heap up the horrors?" I protested. "I know well enough that you are not contemplating any such wholesale criminal measures in this civilized age. This is the twentieth century! And even if you were, I could do nothing. I am not a person of influence. I have no voice. What could I do?"

"We will give you a voice." His demeanor was perfectly unruffled.

"How?" I demanded.

"Radio." His well modulated voice seemed to give the word a new and broader significance.

He paused a moment. I could find no words in which to express my thoughts, or rather my emotions. I was scarcely able to think.

"When we are assured that you intend to facilitate matters, we will offer a plan."

"Do you think for a minute," I raged, "that my promise to help you in this nefarious business would amount to anything? Could I feel there was any honor due you, an avowed enemy?"

"Oh, no. No; it's not that. . . . The best we hope for is that we may see you have arrived at a clear understanding of the predicament your people are in, and of the necessity for doing the sensible thing in their behalf. You see, we are not asking you to help us in our offensive operations. We need no help. Our power is absolute. We only want you to help your own countrymen in the only sane and sensible way they can be helped. . . . And we ask your coöperation only because we are reluctant to impose any unnecessary hardship on even an inferior race."

My emotions suddenly got the better of me. "You are a fiend!" I cried.

I had an impulse to leap upon him and make a desperate effort to kill him before he could get help. I was conscious that he was regarding me closely.

"I am afraid this sort of light is trying to your nerves," he remarked with the utmost calm. "I will change it."

He reached to the side of his desk. There was a click! The blue cast of the light faded out, and there materialized a heavy glass grating, as if springing from thin air. It was within a yard of me, and ran clear across the room. The director was on the other side.

I was unable to conceal my astonishment.

"You must excuse my taking precautions," he apologized. "Sometimes, under the stress of emotion, one acts on impulses that are unworthy. . . . This screen was invisible because it does not reflect blue light. I have shown it to you in order to save you from possible embarrassment. And I should like to submit it as one of our claims to superiority."

A buzzer sounded somewhere close by.

"I must go," said the director. "But first, is there anything I have not made clear? Anything you do not understand?"

"No," I replied bitterly. "You have made everything clear enough. Painfully clear.

"One thing, though, I don't quite understand. What do you want our country for? What are you going to do with it?"

"For the most part it would be made into large estates; say two or three hundred homes. Each state would make a half dozen or more. Perhaps in some cases, two or three counties would be sufficient.

"They will be such estates as your great financiers have now, except that ours would be larger."

The buzzer sounded again.

"But I must be off now. I will have a telephone put at your disposal, and a girl will be detailed to answer you. She will give you any information you may want. I hope you will inquire freely. We want to have absolutely no secrets."

He hurried away, talking over his shoulder as he passed through a doorway, and was gone.

FOR a time I stood staring after him, too dumbfounded, too horrified to do aught else.

I heard a robot behind me, but I paid no attention. Suddenly, I felt the metal yoke close about my neck, and I was roughly jerked to one side and nearly lifted off my feet. Then, for a moment, the robot held still, while I twisted about, and standing on my tiptoes, caught hold of the stiff arm with both hands to relieve the

pressure of the cold hard metal under my jaws and throat. Then the thing started back the way he had come, and at such a pace that I was obliged to run, holding desperately to the outstretched arm as I careened along.

I must have cut a most ridiculous figure; but there seemed to be no one about. This was no way to treat a man, from whom you expected coöperation, I thought with bitter resentment.

There were two sudden sharp clicks in the robot's interior, and the steel arm was jerkily lowered. There was a moment of relief, then the arm continued to descend until I was bent half double; but there was no slackening speed. With difficulty I kept my footing, although my face was hardly two feet above the ground.

Somehow, we arrived at the prison, and I was thrust through the still open door and released. The robot pulled the glass door shut and strode off.

I sat down in a state of utter dejection rubbing my bruised neck and trying to bring my befuddled brain to think connectedly.

Had any human being in the whole world ever been placed in such an impossible position before? What was I to do? What *could* I do? Surely I could not lend myself to the nefarious business so blandly proposed by that "director." It was unthinkable. On the other hand, what would happen if I refused?

I wondered where Wat was. I wished I could talk to him.

Just then the robot came hurrying in, and handed me a card, on which was printed:

"The tower operator of the robots desires to tender his apologies for the rough handling and indignity to which you were unfortunately subjected. It was due to a faulty adjustment of the robot's mechanism. This defect has now been remedied."

The robot stood stiff and erect while I read the note; then bowing low, he turned about with jerky military precision and retired.

I was in an exasperating and humiliating situation; but it was some slight satisfaction to know that I had not been deliberately maltreated; or at least they had not wished to *seem* to maltreat me. And when, in the middle of the afternoon, two small robots came in carrying a telephone instrument, I watched their movements with interest. Evidently it was a wireless telephone, for they made no connections.

When it was completed, I lifted the receiver to my ear. I heard a feminine voice.

"This is Fara Foru speaking," it said. "I am to tell you everything you want to know. That is, common things, that I might be expected to know," she finished with a pleasant laugh.

"I want to know so many things, I don't know where to begin."

"Shall I suggest?" she asked. "The robots? Our language? Our customs? Your friend?"

"Indeed, yes! My companion, Watson. Where is he?"

"He is in just such a room as yours, over on the other side of the grove. He is suffering from a slight wound; nothing serious. But he is in a most rebellious and desperate frame of mind."

"Does he know how I am faring?"

"Yes; he has had a television contact with your conversation with Doctor Good."

"Is Doctor Good a physician?"

"No. 'Doctor' indicates a personal attainment; an educated person."

"What about the robots?" I asked. "Can they go anywhere—do anything?"

"No. They can only go where the light from a tower reaches them. They are actuated by current traveling along the ray of light. They can only make a limited number of movements; one thousand, to be exact. The operator in the tower has a keyboard with one thousand keys. These he uses as you would a calculating instrument. Much skill and long practice is required to operate this keyboard efficiently, though some are able to operate a great many at one time. A number of them may be tuned in together and operate in unison.

"We have about a million of the robots. They are a dozen times as strong as a man. With ordinary usage, one wears out in about ten years of your time."

"And now, how about the language? How does it happen that you all speak English?"

"We don't all talk it. Only those who are interested in languages, or have made it a study for some specific reason.

"You see, this is not our first visit to Earth. A number of years ago we rescued the last survivor of an Arctic expedition from a wrecked boat. Books, papers, phonograph records and all were secured. Besides, we have had your radio broadcasts ever since you became radio conscious."

"And this Arctic explorer; what became of him?"—I was learning a lot.

"Well, that was a good many years ago. After teaching us his language and a great many other things, he died; a natural death. . . I think we have the language quite well in hand, don't you?"

"Yes," I replied. "You know the language as well as we do ourselves.

"Is this a planet, or just a machine?" I wanted to know.

"Oh, it was originally just an asteroid; but lately it has been so mechanized that it is more of a conveyance than an asteroid. We drive it all about."

"Do you know about the plot to steal our country?" I asked with some hesitation.

"Oh," she laughed, "I'm one of the conspirators. Everyone knows about it. Only the word we use is something more akin to 'colonization.' 'Steal' seems a little drastic—unless I have failed to catch the exact meaning of the word as you see it."

"No," I said bitterly, my wrongs coming back to me. "I imagine you have the correct interpretation. But Doctor Good spoke of a thousand people here. Did he mean exactly a thousand?"

"Yes, we try to have just a thousand at all times. Of course, there are sometimes one or two more or one less; but the discrepancy is soon corrected."

(Somehow I fancied I'd rather not know how.)

"Why just a thousand?" I went on.

"With us one thousand is a lucky number; a sort of charmed numeral, the same as 7 or 11 is with your people. It's one of our many superstitions. We know it isn't so, but we sort of half believe there is something in it—you know."

Impossible to tell whether or not she was merely "having me on." The pleasant voice continued:

"Our priests have never sanctioned the arrangement. It is contrary to the Divine purpose, they say. Though I don't see how *they* know. Anyway, we shall no longer need to observe the restriction when we have colonized America."

"I think this is about all I can digest today," I said, and hung up.

SO Wat had heard my conversation with the director! I wondered what he had thought of my conduct. Would he condemn me for even listening to such a proposal?

I was glad I would not have to tell him what had happened. I wondered if he had also heard my conversation with the telephone girl. But I must not waste my time with trivialities. I had a tremendous problem to solve; something of vital consequence to millions of my fellow beings; I must think about that.

And think about it I did; all the rest of the day and far into the night. Here it seemed the nights were set apart from the days by the simple process of turning off the major part of the outdoor lights. Still, I came to no conclusion.

Soon after breakfast the next morning, I called the telephone girl to ask for information about the fiery searchlight, which had been on my mind ever since our capture. But only a mechanical voice answered: "Fara Foru will be in the office from nine to four . . . Fara Foru will be in the office from nine to four . . . it kept on repeating.

As I hung up, a messenger arrived—as usual, one of the metallic variety—bringing a note which read:

"The World will sail in an hour to effect a demonstration. A car will arrive later to take you to the observation station."

There was no signature. It seemed merely the pronouncement of an oracle.

The demonstration that I witnessed a few hours later was entirely devoid of the personal element. It seemed not the work of man but that of the all-powerful forces of Nature.

When the car came and I was taken outside, I found that a great transformation had taken place. The surface of the earth no longer stood up on edge like a vast snow-plastered wall; it had tilted over to form the sky.

I realized that in reality it was only that the asteroid had moved. The side I was on had merely turned toward the earth.

Arrived at the observation station I found that it consisted only of an enclosed platform on which was mounted a short wide-range telescope and some other instruments.

A young man was in charge.

He did not introduce himself, but merely said he had been detailed to give a hand if I needed help in operating the glass, and to give me any information I desired. He seemed very alert and intelligent.

A terrestrial blizzard had set in; and great billowing clouds hurried over—or rather, from my point of view, *under* the snow fields, and great sheets of snowflakes detached themselves and went floating up, to be caught by the ground currents and sent scurrying along under the drifts.

It was the first time I had ever seen a snow storm upside down, with the snow falling away from, instead of toward me. It gave me a strange sense of unreality.

Presently the storm commenced to abate, and I saw rugged country slipping across overhead. It was as though the hurrying clouds had turned to landscape. It steadily grew lighter.

"We are moving toward the Arctic Circle," the attendant explained. "As we are leaving the polar regions, it will soon be entirely daylight."

"How far are we from the earth?" I asked.

"About six miles."

"And how fast are we moving?"

"About four hundred and fifty miles an hour."

"I don't feel any effect of lack of air," I commented.

"We have our own atmosphere."

"And do you have rain?"

"Every fourth day, your time," laconically. "Tomorrow."

I turned my attention on high again. The strange firmament of earthly landscape was tilting over to one side, and a wide belt of starlight sky was opening in the direction that seemed to be east.

"Our world is being allowed to rotate, as it does in its normal condition," said the young man. "The earth will set presently below our western horizon, as does the sun and the moon." And so it did.

Gradually, but rapidly, the landscape ended up till it resembled a painting on some gigantic billboard miles and miles in extent.

Then it calmly proceeded to tip over backward. Details grew fainter and fainter, and finally its curved-up edge slipped below the horizon and it was gone, leaving a cold, bright sky, empty save for innumerable and unnaturally bright stars.

"It will be coming up again in the east very soon," said the attendant. "I hope we have a clear 'earth-rise,'" he finished with a smile, his first touch of sociability.

I noticed that he referred occasionally to a dial set in a ring on his third finger. It dawned upon me that it was his timepiece. I enquired.

"Yes, it's a chronometer," he said, holding it out for me to examine; "but it won't mean much to you. You see, it's now 18-51-11." The figures appeared as on an automobile speedometer. "Our days are so short, normally, that we divide them only once. That is, we have no hours. We have only a unit that corresponds approximately to your minutes; but we do have a division of the years. That would be the first number, 18, That shows our position in our orbit about the sun, when we are home. 51 is the number of revolutions the world has made since entering that section of the orbit; and 11, the minutes passed since starting on the present revolution."

"We designate most of the asteroids that we have discovered by a number or a Greek letter," I said. "But I suppose you have a name for this, the same as we have the name 'earth' for our planet."

"It's this way," said my mentor. "We have a superstition, one that amounts in fact to religious taboo, forbidding us to give any definite name to our planetoid. We are only privileged to give it a designation such as your expression, 'the world.' To call it anything else is rank profanity. Our social organization, our states, we call The World of a Thousand Men," he hesitated.

"You will probably never understand our religion. It's an awful mess," he continued.

"So is ours," I said.

THE curved outline of the earth appeared above the eastern horizon and rose up rapidly until it filled the whole eastern sky. And then, almost entirely without warning, the golden edge of the sun appeared from behind the earth's rim.

The Sun, which I had not seen for over five months! It was a thrilling sight, long to be remembered; and in contemplating the glory of it I forgot for the moment the weird circumstances under which I was viewing it.

"We are badly in need of sunlight for our vegetation," said the attendant. "I notice the grass is looking pale. Of course we have our own heat, which we can liberate at will, but artificial sunlight on a large scale is expensive."

The Earth with its attendant sun hovering close to its edge, climbed higher and higher and then went slowly on over and down, leaving us in a gloom of early twilight through which the stars became dimly visible.

"During the next daylight period, about half an hour by your watch, we ought to reach the place selected for the demonstration. There is to be an exhibition of the power of the big searchlight and its heat," I was advised.

Presently earth and sun were up again; and a great wall of landscape was slanting up before us. Here the earth was clothed in a dense growth of timber that covered everything except the tops of a few small mountains, a snow-filled river course and a small lake of glare ice.

Slowly all motion ceased, and the landscape came to rest, leaning only slightly away toward the top.

The dark forests, the snow-clad mountains and the mirror-like lake made a striking picture in the golden light of the low sun; I mean low in relation to the earthly landscape; it was nearly to our zenith.

"This must be the place," the attendant announced, consulting an instrument on the side of the telescope. "We are about twelve miles from the earth. Now we are coming closer." And indeed the landcape was growing as when the picture on the cinema screen is shifted to give a close-up.

Presently, with the aid of the glass, I was able to make out individual trees, rocks and other features of the landscape. "Seven miles," announced the attendant, as we came to a halt. "That would be about a five-mile range for the projector, situated over there at the point nearest the earth. You have been stationed here in order to obtain a comfortable view. If you were on the earth side, you would, of course, have to look up in order to see it."

At that moment, in the center of the landscape, squarely in front of me, there appeared a large circle of light yellow that stood out in clear-cut contrast to the dark green of the surrounding forest of evergreens.

Gradually a ring of cobalt blue formed on the outside of the circle, and I recognized it as the same that had been used in effecting our capture.

"The yellow is merely light," said the young man. "The conical surface of the light beam acts as a conveying medium for the impulses which we see as the outer ring. These impulses are capable of creating heat."

Of a sudden the blue outside ring leaped into bright incandescence with a brilliancy that smote my eye painfully. It was but a flash of an instant's duration, however. Then the light circle slipped away, leaving a great ring of flaming forest! The flames vibrated and leaped with yellow and green scintillations, such as may be seen when a discarded Christmas tree is thrown into a bonfire.

Dark smoke rolled out toward me, to be caught in a brisk wind that sent it scurrying diagonally to the right.

Presently, all that was left was an ash black ring in the green forest.

A robot appeared beside me and deposited an instrument like an old-fashioned, big-horned graphophone on the table.

"A sound magnifier," said the attendant.

Turning back to view the demonstration, I saw that the forest had broken into flames in another place close by the scorched ring.

The circle was moving slowly along, and in its wake was a furious forest fire, which was creating a huge draught. As tall weeds and grass are sucked into the flames of a prairie fire, so the tall trees were lashed and tossed and bent in twisting, swaying curves.

There was a great crackling, roaring and hissing, punctuated by the heavy thud of falling trees.

Although all this was miles away, the glass and the sound magnifier brought it so close that it was most terrifying to the senses. The burning district lengthened out to form a wide band which steadily described a wide curve and approached the frozen lake.

As the outer rim of the fire reached the line where trees gave place to ice, there was a loud hissing and a great volume of white steam rolled up and was swept away, like the smoke, by the wind.

With a sound of boiling and seething like that of a million steam boilers the circle moved out across the lake, leaving a swathe of dark blue water behind, on which little wavelets promptly sparkled in the ruddy sunlight that struggled through the steam and smoke.

On across the lake and into the forest again swept the great destroying circle, and steam again gave place to fire and smoke. Then the landscape started to shift. I knew we were moving on. Our flaming devourer approached a turret-shaped hill, barren of trees.

"The instruments indicate that we are approaching a mineral deposit rich in iron," said the attendant, silencing the sound magnifier for a moment.

The circle came to rest on the small hilltop, and the yellow center contracted while the outer ring, now darkened to cobalt blue, broadened until it covered nearly the whole hill. Its color shifted from blue to flame color and again to white incandescence.

Black smoke rolled up; there was a muffled sound like the beating of hoofs of a racing herd of large animals. Bright streaks broke out on all sides and went meandering down the hill like streams of white hot lava issuing from a volcano.

"That is the metal that was indicated," said the attendant in his perfectly calm manner. We went on, leaving the hill a glowing smoky mass.

We came to a river course, marked by a crooked line of white amid forests of green. This we followed, melting the snow and ice as we went and leaving a dark, rock-ribbed stream in its place. Following the river course without the glasses, I saw high above me, as it appeared, a cluster of buildings nestled in the snow.

The glass revealed a typical northern trading post; a store building, a couple of sheds and some native huts; also a small steamboat evidently frozen in the river ice.

"Wait, wait," I cried, turning to the attendant and striving to make myself heard above the commotion of the sound magnifier. "There's a station. A settlement!"

The young man shut off the loud speaker.

"Will they see it in time to turn aside?" I asked in great excitement.

"They can't help seeing it," he replied phlegmatically, "but as to whether they will see fit to turn aside or not, I could not say. The important thing is to make the demonstration complete."

"I stared at him in dumbfounded horror.

"You don't mean——"

There was no time to finish the question. The circle neared the station.

With a gasp I saw it encircle the buildings.

There were quick flashes of fire amidst the field of steam. Flashes that had the same positions relative to each other as had the boat and buildings of a moment ago.

I closed my eyes to shut out the sight.

When I looked again, there was only a dark river flowing between charred and blackened banks. The circle, now shifted from the stream, veered away into the forest and suddenly disappeared.

I slumped down in my chair, feeling very sick.

"That ends the demonstration," said the attendant in his hard, unconcerned voice, as he turned abruptly and walked away.

I remained where I was for a few minutes, trying to compose my thoughts and overcome my emotion; then seeing the car still waiting with the driver, I decided to return to my quarters.

I wanted more than anything else to seek a secluded spot and shut out all signs of this strange and terrible world.

SOME time during the return trip in the car, or as I lay in the semi-darkness on my couch a little later—I can't remember just when—I came almost unconsciously to the conclusion that there could be no combating these people, with this inconceivably deadly weapon at their command.

This "demonstration" merely kindled the imagination. What if this great arm of destruction turned loose on Chicago? New York? Washington? My own home? What of the armories, the troop trains and supply ships, the explosives which would be its targets?

As my pulse quieted, the feeling of awe and horror I had experienced at the spectacle of devastation gave way to a superstitious dread; a keen and angry bitterness that these people had been given such a weapon with which to dominate our world.

My reason told me that it was merely the natural result of scientific research and inventive genius, fostered by a high degree of intelligence, but my subconscious self could not agree.

At last I rose and went to the telephone.

"Fara Foru speaking," came the now familiar voice.

"I wanted to inquire how far your light ray can reach."

"You mean the maximum energy of the machine?"

"Yes."

"I don't know exactly, but I will enquire." After a minute: "I have called the minister of mechanics, and he gives me a figure that I fancy is about ten of your miles. I can figure it exactly if you want accurate figures on it."

"No. It's no matter. The approximate distance is all I want. Do you know whether Watson saw the demonstration?"

"Yes. Mr. Watson saw it, Mr. Watson was—greatly impressed."

"By the way; does he talk to you? Has he a telephone?"

"Oh, yes. Mr. Watson talks to me quite often." He is getting along very well."

"May I talk to him?"

"I'm sorry; no arrangement has been made as yet." I hung up.

"Ten miles—ten miles"—I said to myself over and over, as I meditated on the problem that confronted me. Surely no earthly weapon, no projectile of aircraft could reach a height of ten miles to do effective damage. There could be no hope of any adequate defense. It never entered my thoughts to doubt the accuracy of the information I had received. . . .

Next day I called Fara Foru and asked her to notify the director that I desired an interview. I had definitely made up my mind to at least listen to his plans.

A few hours later, having received no reply to my request, I called up again and was told that the director would be at liberty early the next day—work period; and that I might go whenever I was ready. My door was no longer locked, and I was free to go and come at will. I was requested, however, not to go on any extended trips. A conveyance and a guide would be furnished for that purpose later.

The telephone girl added a bit naïvely, I thought, that Mr. Watson was at liberty in a restricted way and would come to see me soon.

The next morning, just as I was finishing breakfast, sure enough I saw him coming across the green toward my quarters. A tall robot was walking beside him, and evidently showing him the way. I was surprised to see that Watson was striding along quite jauntily.

His large athletic figure was displayed to advantage in the abbreviated native costume, which he wore and only a white patch at the edge of his great shock of auburn hair revealed any trace of injury.

I hurried to welcome him. "We are in a bad predicament," I said, after I had greeted him and congratulated him on being alive. "You have seen what is going on? You know what they are planning to do?"

"Yes," he replied bitterly, "I've seen. They're just a bunch of savages."

"Did they treat you well? How are you feeling?" I asked.

"I feel utterly bewildered," he declared. "I don't know why I was so foolish as to carry on as I did. It didn't get us anywhere."

But his attitude and voice seemed to belie his words. He was not dejected.

"You are bearing up?" I suggested.

"Listen." He smiled an illuminating smile. "I have seen Fara Foru."

"Oh, the phone girl. What did she say?"

"Well, she didn't *say* much of anything; but is she some creature? You should see her. If they were all like her, you wouldn't have to argue with me about this being a superior race!"

I changed the subject.

"I am going to see the director today, and I think I

ought to agree to coöperate with him as he asked. "What do *you* think, Wat?"

"Well," he replied a bit dubiously, and after a moment's deep thought, "I can't see anything else for it. You couldn't hinder them, and you can't help us. I guess I am for it."

"You are something of a radio expert," I suggested, "I suppose we will have to make some adjustments in their broadcasting apparatus; we know they have never been received on earth as they have it at present. Doctor Good, as you know, suggested radio as the means to inform America of what is going to happen."

"Yes, I know that," Wat agreed. "No doubt I could help out in that line if you needed me."

He took his departure shortly, saying that he had been requested to make his call very short, in order that I might get away for my conference with the director.

He had, he said, quarters much the same as mine, only smaller.

I FOUND the director at his desk.

He motioned me to a seat and plunged immediately into discussion.

"You have, of course, decided after seeing our demonstration that it is best to coöperate; so we may as well proceed."

"Have you a definite plan?" I asked.

"Oh, yes, I have a plan; and a genuinely simple one." His manner was most urbane. "My plan is to show you how and when we intend to take possession; give you every facility to work with, and—leave the rest to you.

"Whatever you can accomplish will be acceptable. If you accomplish nothing, we shall at least feel that we have done what we could."

"But that would be too heavy a responsibility for me to assume," I demurred.

"It is undeniably a large undertaking," he agreed. "But some one has to take charge, and we thought you could do better than one of us, since you know your people's ways much better than we do."

"Well, I will see what I can do," I assented. "You spoke of radio. Have you a broadcasting station that will transmit messages to our receiving sets?"

"No," was the reply, "but we have them for our own use. We use radio quite extensively. I am not familiar with its technicalities, but I see no reason why we could not adjust our sending so it could be tuned in on your sets at home. Our minister of mechanics, no doubt, could help you out there."

"Have you any knowledge of radio mechanics?" was the next question.

"No," I said, "it's quite out of my line; but my companion Watson knows quite a lot about it."

Doctor Good smiled broadly.

"He is such a desperate man," he remarked, "I don't know if we can trust him to help in the matter. He is so impulsive, you know. But I am willing to leave that detail to you; and I suggest that you get in touch with the department of mechanics at once. Your telephone girl will arrange that for you." He rose, to signify that the interview was over.

"Do you contemplate imposing any restrictions on what sort of information I put out, if I do establish communication?" I inquired.

"No. Absolutely none. I hope you will be entirely frank with your people, as we have been with you. Tell them everything; and if there is anything you don't know, ask about it. There are to be absolutely no secrets."

"Well," I agreed, as I turned to go, "nothing could be fairer than that."

Next day Wat and I called upon the minister of mechanics. He was an old man of most precise manners but with very little knowledge of English. He turned us over to his secretary with instructions to do everything possible for us; and we were soon inspecting radio apparatus and discussing ways and means with experts.

I will not go into detail, because, as a matter of fact, most of the details were Greek to me. But presently, Wat, acting in the capacity of advisory engineer, had a temporary studio prepared and announced that now I could reach all parts of America. Naturally, Wat said, they had received no fan letters on their test broadcasts, but with the unlimited power at our command, and a frequency near the middle of the broadcast band, he thought there was no doubt that we should be picked up universally, and in case we cared to, we could drown out any existing broadcasting station.

Meanwhile I had been planning my campaign; learning what the program of the invaders was going to be, and in general amassing such information as promised to be useful and suited to my needs.

I had no difficulty in securing information. Everywhere, I found people ready to help me, and always ready to explain anything and everything I wanted to know.

But there was always on their part an aloofness; an indescribable attitude of superiority, which, although not exactly offensive, was very disconcerting and oppressing. No one ever asked me any questions, or appeared to take any interest in me further than was required for an intelligent understanding of my needs.

All the work of erecting the temporary building for the studio and installing the machinery, except for the most delicate mechanical operations was performed by robots. I had ample opportunity and found it most interesting to watch them. The operator's tower was set up a few rods away, and the operator, aided by a pair of short range binoculars, directed the robots almost as skilfully as if he had been directing his own hands.

The building, a fabricated one, was brought in sections—several robots to each one. In carrying the parts, all moved in absolute unison. No soldiers ever kept step with such precision; and though they sang no chanteys, no group of sailors ever pulled or lifted with such perfect accord.

One of the weirdest features of the whole thing was the strange attitudes that they often held for long periods of time. When a robot had performed his task, the operator never bothered further with him until he was needed again. If he happened to be standing with his hands high above his head, there he stood. If he was standing on one foot, with both hands reaching out, he continued to stand on one foot with his hands outstretched until there was something better to do.

Often these poses were so altogether ridiculous that one could not refrain from laughing at them.

Fortunately the robots were unable to take offense.

SOME five months, I learned, were to elapse before the Super People would take possession of America.

The exact date had been arrived at by methods in part scientific and in part superstitious.

There was, they explained, a double star of gigantic proportions some distance outside the solar system, which, owing to the fact that it was non-luminous, could not be seen with ordinary telescopes. These bodies, they said, exercised tremendous influence by means of magnetic and other not very well understood forces, on human activity.

These two bodies, each revolving on its own axis and each revolving about the other after the manner of a pair of whirling dumb bells, came into such a position once in a dozen years, that a line from their common centers, when extended, passed through the solar system.

It had been long been a superstition that at the so-called eclipse of this star was a most fortunate time to engage in any great enterprise. Furthermore, a careful study of graphs and records had revealed beyond question that at certain periods men's minds were very active and enterprising; and at other times the whole population seemed to be in a comparatively lethargic state. The high points of mental activity for many years had seemed to coincide with the so-called lucky periods.

Therefore, the date of the total eclipse had been chosen as the zero hour for taking complete possession of the greater part of the American continent. Tremendous preparations were under way. Special machines were being built, and great armies of robots were being turned out, ready for the great work. In the meantime, by means of maps and charts, the country was being divided into several hundred gigantic estates.

Practically every day I was called upon to answer a number of questions regarding climatic conditions, watersheds, fertility and the like. Giving this information as best I could, only served to impress me with the deadly earnestness and practicality of these people—the S. R., (Superior Race) as Wat was soon calling them—and as, in fact, the whole world was soon calling them.

The broadcasting station was in readiness.

Seven o'clock was the appointed time for the initial broadcast.

We went into action.

As I carried on, I visualized the effect on my hearers. A man at his radio, say, in a suburb of Cleveland. He is tuning for a station near the middle of the broadcast band. It is seven o'clock time for a national feature.

"What?" What's this?" He turns a little to the right.

"This is Station X calling North America."

"This is Station X. calling North America."

He reaches for his call book. "What station can this be? There are no stations with only one call letter." He moves the dial to new location, consults book.

"This is Station X, calling North America."

"Well, this is *some* station, blanketing everything" ——"station X, located on the World of a thousand Men, now maneuvering somewhere above the Arctic."

"G.S. Tower speaking. It is my painful duty to announce to the people of North America that they will be forced to vacate the entire continent not later than August seventh of this year."

The man is greatly excited. Calls to his wife. "Here; Listen to this! There's something up!"

——"Preparations for the migration should begin at once. I am instructed to say that there will be no restrictions as to what may be taken away. Take anything you wish that you can secure transportation for, but do not delay your preparations."

"The offensive weapons of this world are very superior; in fact, infinitely superior to anything known on Earth. Those who offer resistance will be exterminated. You are absolutely helpless, and have no choice but to obey. At this hour tomorrow, you will be given further details; and very shortly a demonstration of resistless power.

"In the meantime, prepare for flight. Station X now signing off."

The woman stands aghast in the doorway. The man is half rising from his chair, staring at the radio as if it were some ravenous beast of the jungle, preparing to spring at him.

And all over the country; in the pent houses on top of New York, on the flat farms of North Dakota, in the gilded apartments of Hollywood, in the old colonial mansions of Virginia; in the millionaire hotels of Florida and the sod shack on a Canadian homestead, there are innumerable similar scenes. Crystal sets, one-tube sets, supers—all have caught the same message. America had heard!

In a moment telephones, telegraph, long distance lines, private lines, cables, all are busy. Men of prominence, the great and the near great, senators, bishops, the president, famous scientists, in answer to urgent calls, are hurrying to give over the air their views on what has happened.

Some are alarmed. Some are amused. Some believe; some are skeptical.

But there can be no denying the message will have made a profound impression. Perhaps before morning millions who refuse to accept the warning as authentic have outlined some sort of scheme. Not a real plan. Just something in case——

The news item that appeared the following morning, March 6th, in the *Chicago Leader News* was representative of the attitude of a large number of publications.

HOAX OR REALITY?

The startling announcement coming over the air from an unidentified station at seven o'clock last night has created a nationwide flurry of excitement.

Coming as it did when radio fans from coast to coast were listening in, and completely blanketing a wide range of stations, it was heard throughout the continent.

There can be no doubt that the tragically earnest announcer made a profound impression on his hearers.

The most natural explanation is, of course, that it was a clever hoax, or a poorly advised publicity stunt; but many well informed people refuse to accept this explanation, and experts claim that from a technical point of view, the occurrence is altogether inexplicable.

The extraordinary broadcast was received with equal clearness throughout the United States and Canada, and also in Mexico. This would indicate a station much more powerful than any now in existence; yet according to P. T. Myers of the Federal

Radio Commission, there has been no intimation that any such powerful and expensive station is being built or even contemplated.

No assignment of wave length has been made recently, nor has any station registered the call letter "X."

Mr. Myers declared that it was impossible for any amateur, with a privately built set, to have put such a powerful broadcast on the air.

A. E. Kennedy of the C & C Research Laboratories, in commenting on the occurrence over the air at 12:40 this morning, called attention to a new item that had appeared in a number of Canadian and a few middle western papers early last week.

A half-breed Indian guide, according to the report, had told an aviator at a gold prospecting outpost, of a mysterious forest fire in the heavily timbered region east of Little Squaw Creek.

According to his tale, a wide swath had been cut through the forest some twenty rods wide, melting the deep snow and burning the trees to the ground. The fire, so he declared, had even crossed a lake and completely destroyed a fur trading camp, killing and completely burning its more than a dozen inhabitants.

Mr. Kennedy suggested that there might be some connection between this strange occurrence and last night's mysterious broadcast, and he also suggested that measures be taken, if possible, to verify the rumor.

He also discussed at some length the possibility of the message having come from some other planet or some one of the two thousand or more known asteroids. He declared that interplanetary flight was now almost within the grasp of our scientists, and that it is entirely reasonable to suppose that if there are races of men a trifle more scientific than we, they might well have mastered the necessary technique.

It was also conceivable, said Mr. Kennedy, although he deemed it improbable, that such a race might have developed weapons so far superior to ours that they could easily destroy our defenses.

Kennedy was not alone in his view that there might be something more than a hoax in the radio announcement. Several others, among them Bishop Johnson, who spoke from WIHS, were inclined to discount the hoax theory.

It was rumored that the Association of Radio Dealers and Manufacturers will offer a large reward for the apprehension of the criminals.

THE following evening, March seventh, I went on the air again at the appointed time and read from a prepared manuscript a short history of my career since leaving civilization, identifying myself positively by giving the sponsors of our little expedition; and I ended with a brief description of the demonstration I had witnessed of the power of the planetarians.

In closing, I announced that any inquiries or other communication, if put on the air at twelve o'clock over station WMKP would probably reach me.

As before, I stressed the necessity for immediate preparations for the migration.

The next day, March eighth, tuning in on WMKP, I found the Secretary of State on the air. He addressed me by name, saying that he had but one request to proffer, and that was that I would cause the world of a Thousand Men to appear to the people of some northern city or in some other way supply incontrovertible proof of the existence of the wandering asteroid.

Then the Attorney General came on and warned me that the government was in no mood to tolerate trifling, and that all the federal facilities would be employed to apprehend and punish me.

Later the same day, a dispatch from the International News Agency was put on the air by the A C chain stations.

The dispatch stated that a fleet of airplanes sent into the far North to seek for the reported forest fire area had found it, very much as described in my version, and also that of the half-breed guide.

In the evening, I announced that I had received the twelve o'clock messages and that I had forwarded the request to the Director of the World of a Thousand Men, and would soon report further.

In reply to the Attorney General's threats, I besought the government to waste no time or energy in useless attempts to bring me to book, but to bend every effort toward making international agreements and providing asylum for the millions of citizens constituting the great population of America, so soon to be uprooted.

The next morning I was awakened by a messenger from Doctor Good. He informed me that the "World" was hovering over Nome, and asked if I cared to give them any message.

Looking out, I saw the town swimming low close over my head; a few minutes later we got the station in operation and broadcast a request to the local authorities to telegraph Washington an account of our appearance.

We received no reply; but an hour later stations throughout the United States and Canada were announcing that our appearance had been reported.

The few weeks that followed were given up quite largely to routine work on our part; answering inquiries from Earth and carrying out an extensive program of propaganda, with not very gratifying success. Although most Americans seemed to be convinced of the actual existence of the World of a Thousand Men, they were not ready to accept the belief that the S.R. had the power to force them to vacate their country. At least this was the impression gathered from listening in to radio broadcasts from all over the continent.

In the meantime I did what I could to get better acquainted with the people about me—a most disheartening and uphill business, owing to their aloof and superior attitude.

Wat was kept busy with the technicalities of Station X. But he was absent from time to time, and often reported having made excursions into the interior of the asteroid to inspect the cast machines and navigating devices. On several occasions I went with him. At this time no restrictions were placed on our actions. In fact, every facility was offered us to aid our understanding of anything that interested us.

"I know now what makes the world go around," Wat announced one day, "and what's more to the purpose. what makes it stop going around at times."

What is it?" I demanded.

"Well, it's quite simple, in a way. There is a heavy core of metallic substance, mostly nickel iron, in the center of this asteroid.

"They tell me—and I have no reason to doubt it—that cosmic rays coming out of space cause this core to revolve on its axis, the same as a current of electricity causes the core of a motor to revolve. They claim this is the reason for the steady rotation of all free bodies in space."

——"And do you know what they have done? They've cut the center of the core free from its surroundings, mounted it on roller bearings and geared it to its shell with sprockets! Now they can disengage the sprockets and allow the outside of the globe to stop, while the core keeps right on revolving. That's how they are able to land. If it were not for that, the thing would roll away as soon as they came to earth. And that is why we always hear that vast rumbling when we are standing still."

"They are trying to show me how they overcome gravity, so that we don't fall into the earth; but so far I haven't been able to understand it. As near as I can make out, it involves the magnetizing and demagnetizing of some parts of the core. I wish I knew more about magnetic fields. . . . These fellows certainly are deep ones."

——"And I wish I knew more about neutrons. These people are very glib about them. I think we ought to start in learning their language. I could make use of their scientific books. Fara Foru thinks I could learn it quite easily."

"Ah, the telephone girl. Do you see her? Do you know her?" I asked.

"Well, to some extent," he replied evasively. "Since she is one of the S.R., to be acquainted would, of course, be impossible. They can surely keep you at a distance." He laughed with much of his old time philosophic good humor. "You see," he offered, "she is under instructions to tell me everything I want to know."

"I AM not making satisfactory progress," I announced to the director one day, some three weeks after going on the air.

"I think I shall have to ask you for a demonstration of fighting prowess. My people refuse to be convinced."

"Yes," he agreed, "I had expected it would be necessary for us to show our hand."

"You may go ahead and make whatever arrangements seem advisable. You can count on us to coöperate."

"Even to the extent of a large-scale battle?" I asked.

"Yes, certainly. Our machine is at your service any time you want it. I will instruct the minister of mechanics. I am still hoping that we may bring about a peaceful evacuation, and this may prove a convincing argument. Your people are very slow to believe—and time passes."

That evening, Station X, calling America, announced that somewhere in the United States the World of a Thousand Men would use her war machine in a destructive demonstration at midnight two nights later.

The program was carried out as promised.

We passed over a part of Minnesota, Iowa, Illinois and Michigan, turning the burning ray on fields and groves, bridges, railways and in fact everything that came in our way. Sometimes, for stretches of a mile or two, we burned everything in a wide strip; then jumped a score of miles and attacked again. After carrying on for several hours, we rose to a height of about 30 miles from the earth and headed back north.

In directing the attack, I felt like a murderer, for I knew, that although we had tried to avoid towns and houses as far as possible, a number of lives would inevitably have been sacrificed.

I tried to console myself with the thought that this stern action was necessary, in order that much worse might be avoided in the future.

I earnestly hoped that this demonstration would serve to convince most of the private citizens of the futility of resistance; but I knew I should have the Army and Navy to deal with, and since their business is war, they could hardly be expected to surrender without a struggle.

Radio reports soon showed that I was correct in my theory; for while the public clamored for government action to secure peace, the war department confidently declared its ability to cope with the situation.

By the middle of April, I became convinced that nothing short of a decisive battle could clear the atmosphere, and after a few days' hesitation and a long conference with the director, I decided to go through with the wretched affair.

With what dread and misgiving I prepared for the ordeal I shall never be able to tell. Something of my frame of mind can be realized by quoting from a reproducing record made by the state department at Washington on April twenty-first.

It records:

Station X calling North America. Station X, World of a Thousand Men.

I have an announcement to make tonight which fills me with distress, and which nothing short of the direst necessity could ever induce me to make. But it will be seen that I have no choice.

As I have often explained, the responsibility of saving you all from the dreadful disaster of being driven like cattle in disorganized herds at the last moment to the seashore, rests on me. I am determined to have as little bloodshed and suffering as may be. Obviously, death and destruction cannot be entirely eliminated from such a colossal undertaking.

I am sorry as you can ever be that your collective state of mind is such that you cannot bring yourselves to believe this migration is inevitable, and to go peaceably and in a sane and orderly fashion, without further violence.

I can see that you are not wholly convinced, even though you have seen large tracts of country laid waste and even an iron mountain melted by a weapon so powerful that no earthly device can withstand its might.

There is still among you a hope that the army and navy may in some superhuman way combat this weapon of destruction. But the time grows short; active preparations cannot much longer be delayed without great disaster to you. You will readily see that the army and other branches of the war department must be subdued! without too great loss of life, if that be possible, but at any rate, it must be subdued.

I now suggest a date and place for the necessary, decisive battle. I propose it to take place on May third, at the old Harrison Fort and arsenal.

I have chosen this place not only because more arms and ammunition are stored there than in any other place, but also because it will be possible to use both the army and navy in defending it. The fact that the new army, more than a million strong, is encamped just up the river, is another feature favorable to you.

In naming place and date, it will be seen that I am giving the American forces a distinct advantage. But lest the war department should think me presumptuous, I will say that I am willing to agree on any reasonable plan that is satisfactory to them.

Of course, if they fail to respond, we shall be forced to seek out the various units and destroy them where they are found. However, I have little fear that the government will not see the advantage of making this a decisive engagement.

Station X will be on the air again tomorrow evening at seven o'clock.

Early next morning I received a summons to the director's office.

"I am glad to know you have decided to take the initiative, and show your people the error of their position, although I regret as much as you do the necessity of resorting to open warfare.

"I am satisfied to let you superintend this engagement; but there is one thing I want to suggest.

"A committee from our Veterans' Bureau has just called on me. (We used to have wars, before the World became a united country). Years ago there was a great war in which one portion of the population overcame the other in a great battle, after which a permanent universal government was established.

"The winning side fought this battle very largely with robots. The robots were really the winning factor. That was before we had our searchlight and heat beam perfected. These victorious robots, about 200,000 strong, are still in storage, together with their guns, each containing 100 shots. Occasionally, on patriotic and historic occasions, these robots are brought out and paraded with much pomp and circumstance.

"The men who handled them in the war are all old men now. There are only a score of them left; but they are like children with their dolls. It so happens that one celebration and parade which we hold at intervals of about ten of your years, is due in about a fortnight.

"Now this committee has asked me to allow them to stage a part of the coming battle with these robots. They want to make of it a memorial spectacle.

"It seems to me to be a good idea. Most of the old boys will be gone before another ten years, and since it can easily be arranged, why not give them back a day out of their heroic past? They deserve it, and with the help of the Historic Society, I have no doubt they could make a pageant of real educational value.

"So I have consented. And I have arranged to have the Grand Commander of the Veterans, the president of the Historic Society and the minister of mechanics meet in conference tomorrow. I want you to attend the meeting and coöperate with them."

Of my inner revulsion I spoke no word. All I said was, "But with the invincible weapon we have, there is no need for such a force. They would only be a hindrance."

The director smiled indulgently. "With the advantage we have, we can well afford to submit to a handicap or two."

"We couldn't land this force without danger from the artillery and bombing planes," I argued.

"Oh, that is nothing. They can be set down with a long-distance magnet. You don't need to worry over details. They will all be arranged for you."

As I left the office, I was discouraged and heartsick. An old phrase persisted in rising to my mind: "Butchered to make a Roman holiday."

It was a most cruel and bloodthirsty project. Could it be possible that these people would enjoy a spectacle so barbarous? Super Race, indeed!

By the time I reached my quarters I had become somewhat resigned.

After all, routing an army with mechanical soldiers was no worse than killing them with a heat ray; and I was definitely committed to the belief that the whole war machine would have to be annihilated or else hopelessly crippled.

Of course, it would not be necessary to tell my people of this robot business. Up to this time I had kept no secrets, told of things exactly as they were, even trying to explain my mental reaction in my radio talks, because absolute frankness seemed best. Of course, I might just mention the army of robots, leaving out the sinister details.

DURING the greater part of the day I wrestled with this problem. Finally I lost patience with myself. Why should I bother my mind with this detail? It was no doing of mine, I was just a miserable go-between. After all I would put it up to Doctor Good.

"Oh, I see no reason why you should keep it a secret," he answered my question easily. "We have no secrets, and we seem to get on well enough. However, if the matter of explaining this to your people is distressing you, I might offer a suggestion. We have a record of all conversations held in the office, and if you would care to place the one we held this morning in the reproducer and put it on the air, I will send it to you."

When I told all this to Wat, he was wild. After a little consideration, he unburdened himself in this fashion:

"All right. If merely putting this wretched thing over by means of electrical transcription is going to salve your conscience, bring the damn record along and we'll shove it on the air. But let me tell you right now, it goes against the grain worse than anything we have had to put up with yet."

That evening the voice of the director was heard all over America, and there was little or no need for explanation.

If one could judge from the broadcast from American stations, the first reaction was much the same as mine and Wat's had been; but by the next day the tone of the speakers had become much modified and less vindictive.

It was at about this time that the first "Pro-Tower Societies" were organized.

During the weeks that followed, these societies sprang up everywhere in America, and their membership increased with great rapidity. They were organizations of those who sympathized with my efforts, and who believed as I did that migration was inevitable.

As for the war department, they preserved a profound silence. This was, of course, in keeping with the best traditions of military strategy. Any other course would, to one of military training, have seemed treasonable. However, in spite of all censorship of radio, some information did leak out, showing that huge preparations for defense of the strategic position were actively under way.

Meanwhile our own preparations went on, including those of the Veterans' and the Historic Societies.

The day before that set for the battle, the Pro-Tower Societies, which had now united to form a strong central organization, sent out a stirring appeal to the president to call for a truce with the S.R., and to try to arrange for a treaty.

They pointed out how utterly hopeless was the coming conflict, and deplored the useless destruction of life and property that must be the inevitable result. They declared in no uncertain terms that no earthly invention could cope with the heat ray, whose dreadful power had been so thoroughly demonstrated.

The Attorney General responded with a threat to arrest as traitors all those who advocated government capitulation. The preparations for war went on.

DAYLIGHT on the morning of the third of May found us a few miles up the river from the main army camp, hastily putting down regiments of robot soldiers from our position well above the airplane ceiling.

We had already brought the heat ray into play—I say "we," because, while the entire conduct of operations was now under the direction of the minister of mechanics, I had arranged for the conflict, and I felt that the ultimate success of my efforts was bound up in its outcome.

We presented such a tremendously large target that any projectile aimed in our direction with power enough to carry it to our level could not have failed to reach us.

But we knew that any cannon of sufficient carrying power to reach us would be using a steel projectile; and steel, we knew, would be repulsed by the anti-magnetic currents we were using to prevent our planetoid's being attracted by the Earth.

With the heat ray, we were fending off the few bombing planes which came to attack our landing operations. If one came close, the operator simply focussed the searchlight with its blue ring on it, until it broke into flames and tumbled to the ground. Only a few came, however. Evidently they were being reserved for a later united attack.

The robots made a brave show; their weapons gleaming and their golden and purple banners unfurling to capture the first rays of the morning sun.

As each regiment was set down, it was galvanized into action. Each company marched and wheeled and came into its proper position with all the snap and precision of a dress parade.

They were all in uniforms of blue and gold, because in the old days they had all been camouflaged as real soldiers, and their silvery guns, ending in long blue bayonets, were carried jauntily at a precise angle.

I was stationed at the same observation platform as at the earlier demonstration; but this time I had no attendant. I imagined the man who had helped me before was now one of the vast crowd of holiday makers of which I caught an occasional glimpse beyond a grove, and whose cheers rose to great volume every time a new regiment of robots wheeled into position and presented arms.

Wat was stationed at the platform near his own quarters, by order of the director.

On a little hill, I could see the battery of towers from which the robots were being operated by long distance. I turned my glasses on earth.

Out in the bay, beyond the old fort and the huge arsenal, was a noble array of warships, either lying ominously at anchor or maneuvering about and throwing up long lines of white foam and waves in their wake that conspired with the rising sun to lend glamor and picturesqueness to the stirring scene.

Several giant dirigibles came nosing their way over the mountain range to the north; and a battery of big guns at the fort, opening fire, sent up a fleecy cloud of white smoke whose shadow drifted like an omen of evil out across the spacious camp grounds of the waiting army.

In the far distance of the outside harbor was visible another squadron of the fleet. This I hoped would not be brought on to be destroyed. I felt that the ships could be put to better use, and soon there would be need for every ship that could possibly be mustered.

A great commotion of cheering brought me back to the robot army. By now they had all been landed, and all were in motion. I could readily believe there were two hundred thousand of them; their close ranks were acres and acres in extent. Every unit was precisely placed, and the long lines were unbelievably straight. All those thousands were marching as a single man. Four hundred thousand feet came up and were set down in exact unison.

I am wishing my wide-range glass had an even wider field; even in close formation as they are, I can see only a part of them at one time. They are marching parallel to the river and hitting a brisk pace. And now they are deploying in open formation; spreading out over the wide fields with quick spurts, like so many bounding shots spilled from a dish.

There is a puff of smoke among them, and a spot of black appears in the light-colored field. The enemy has landed an explosive shell; but the marchers move on. There is no upsetting *their* nerves! The searchlight leaps to a point across the river where a half-hidden battery is in action. A heavy detonation heralds the explosion of their stock of ammunition. And now the great army of robots is opposite and across the river from the expectant human army, which is almost as mechanically being maneuvered into battle formation.

Of a sudden the great waves of marching robots halt with a jerk; and with a quick shifting like that of a giant kaleidoscope, they resolve themselves into solid ranks again. But now they are facing the river and the enemy. The forward ranks are advancing at the double quick. There is wild and prolonged cheering from the spectators on the planetoid. Turning from my glasses, I see the Grand Commander, mounted on a tall platform, saluting and bowing to the crowds.

This is indeed his day; the old war hero is coming into his own.

I turn to the glasses. The front rank of robots has now reached the river at one point; but there is no halting; no hesitation. They march over the low bank and stalk into the water, now knee-deep, now waist-deep.

Ranks of federal infantry on the opposite shore give off long lines of blue smoke, and I know they have opened fire, though the far-away rattle does not reach me for some time. I have refrained from turning on the sound magnifier because of the deafening detonations of cannon and shrapnel.

The ranks of the robots march on, deeper and deeper into the stream; their guns still on their shoulders.

Presently even their heads are disappearing, but the

ranks of the guns are still visible as the bayonets go bobbing along above the surface. At length even these disappear.

The oncoming ranks pour in from behind until the water is alive with them. And now, out beyond the middle, something breaks the smooth water. A great shout goes up from the crowds beyond the grove.

It is a line of bayonet points. They advance briskly, bobbing higher and higher. Then the heads emerge; the bodies gradually appear; and now they are in water only knee-deep again, but a few rods from shore.

Suddenly the front row, with one swift movement, brings guns to position. There is a cloud of light yellow smoke.

The ranks of the federal troops melt and waver.

There is a second, a third volley.

THE few remaining soldiers of the front line federals retire in broken disorder.

They suddenly drop to the ground, while the second line falls back, revealing dozens of machine guns whose smoking, flaming muzzles are spitting viciously. But I see none of the iron ranks going down!

Of a sudden the top of a long hill in the background becomes a seething mass of activity. The river begins to spout sudden fountains and long lanes begin to appear in the ranks of robots that have reached shore. It is plain even the robots cannot withstand the fire of massed artillery. They are being mowed down like so many weeds.

Another vast shout goes up from the crowd near me; the yellow light circle with its fiery rim leaps from somewhere out in space to the top of the long hill.

Very deliberately it moves along. It is leaving only a black, smouldering field behind it. Still the robot army marches steadily into the river. Still they are emerging, rank on rank. The ground is strewn with fallen robots, but the new arrivals are now taking high, short steps, in order to keep from tripping over them. They are trodden under foot.

The second line of federals is more deeply intrenched than was the first; as the robot line approaches, they rush out with fixed bayonets for a quick charge.

The robots quicken pace and rush to meet them with leveled weapons. There is a confused melee, but the robots keep on; many of them with their weapons still held level, but bearing an impaled soldier!

I shudder and turn away. I have seen enough details.

Looking toward the fort, I see an aerial attack is being launched. A great squadron of airplanes is coming toward us, headed by two of the huge shining dirigibles.

I know we are well above their ceiling, but it seems possible that they might get close enough to pepper us, if they happened to have any magnet-resisting projectiles.

There is a puff of smoke from the foremost and highest. A second or two later a terrific roar, close at hand. From the middle of the nearby grove, a cloud of flying fragments leaps high in air.

With a gasp of dismay I realize that in some way they have penetrated our defense!

But now the offending dirigible is illuminated with a yellow light. A band of cobalt blue across her nose suddenly turns to flame. She pitches forward and starts to descend.

Now the other one is firing. There is a savage roar somewhere behind me, then another somewhere further off. But a moment more and this craft is also stricken and goes tumbling to the ground, leaving a long line of white smoke behind her.

Now the yellow circle flits about among the fleet of airplanes like a great moth seeking its prey.

One after another they are halted in their flight, to go plunging at the end of black smoke streaks toward the ground.

It is all most spectacular and thrilling, but for me, it has little fascination.

I can see only the terrible orgy of death and destruction. I decide to go back to my quarters and shut it all out. I can stand no more. Perhaps I can work out my evening broadcast and get my tortured mind off what is going on.

Arrived at my quarters, I closed the heavy glass door and sat down at my desk.

I tried to think what I should say to my fellow Americans at seven o'clock, when the battle was over. I knew it surely must be over long before that.

I wondered what sort of reports were going out over the earth on the radio, regarding the progress of the battle. Of course, all news from the region would be censored by the war department. Perhaps they would even be claiming the advantage!

Well, no matter. The truth must out when the troops were entirely routed and the whole district laid waste.

What should be the next step?

Should the people be loaded into ships and sent to the old countries; Italians to Italy; Germans to Germany; Irish to Ireland? If so, what of the old-time Americans, whose ancestry could no longer be traced? Who would take them?"

In the distance cannon roared and shrapnel exploded. It was hard to think connectedly. I fell to wondering if it would be possible to transport the government to some foreign land and preserve a nucleus of the old nation. There were but two districts I could think of that were not already settled and developed. One was the open spaces of Africa, and the other the undeveloped regions of Asia, around the Himalaya Mountain district.

It was not the first time I had tried to think this out; but I had never been able to make much progress, and I felt I was making none now.

Perhaps the Tower Societies, which by this time had a huge membership, would be powerful enough to work out a plan and to put it in effect. In order to accomplish anything, I knew there must be great unity of purpose, and I feared it would be impossible to obtain this unity among so many people unless physical compulsion was behind some definite program.

It was too great a problem for me. I felt pitifully little and ignorant and helpless.

THE commotion outside was dying down. I decided to go back to the observation station and see what was happening.

As soon as I was out in the open, I saw that we were moving. The erstwhile camp and battlefield were at a distance, and we were much closer to the fort and arsenal.

When I got to the station, I could see by the aid of the glass that the federal army had been completely routed. Here and there parts of regiments retained a semblance of orderly formation; but in the distance were

great crowds of soldiers hurrying away along the river and over the hills and fields, like so many droves of frightened sheep.

The robot army had discontinued its advance, and the various units were standing perfectly still.

Evidently we had withdrawn so far, the operating tower had ceased to function. My powerful glass revealed the robots standing just as they had been left. Some stood with one foot raised in marching; some in the act of charging; some with guns leveled from the shoulder, and a great many were lying on the ground where, except for the color of their uniforms, they were barely distinguishable from the thousands of real soldiers lying with them.

I heard a vast, faraway roar and turned to see the batteries of the fort open fire. A moment later the entire assembled fleet beyond added their broadsides to the uproar.

Heretofore but an occasional big gun had been fired; but now they evidently considered us within range of heavy ordnance, and they were giving us all they had.

This I realized was to be the grand finale; but I could see nothing of the yellow spot of the searchlight. I wondered if it could possibly have been disabled.

Of a sudden it appeared, between the fort and the arsenal. For a moment it wavered about as if undecided. Then it settled on the long roof of the arsenal.

As the blue outer ring started to fade, the great roof seemed literally to leap up and disappear in thin air. Flying fragments appeared on all sides, and great billows of black and yellow smoke rolled up; while a deafening roar smote my already strained eardrums. Tents, farm buildings, groves of trees—everything in the vicinity seemed to collapse at once into ruins.

Then the light sought out one of the larger ships of the fleet. Almost at once there was another explosion, only a little less terrific, and the ship disappeared!

It was then the turn of the next one in line. It, too, went up; and then another and another in quick succession, until there were only a half dozen scattered craft left. Even these were in full flight.

I was grateful to see that the light did not pursue them. There could be no doubt that we would soon need those same ships. I was gratified to see that the other squadron was still in the distance.

Still the fort kept up its bombardment, although, so far as I could see, none of its projectiles penetrated our defense.

Having disposed of the fleet, the yellow spot went exploring waveringly about over the devastated landscape, as though seeking for new victims. Finally it settled on the fort. For a long moment nothing happened. Then a section of the works leaped into the air, parted in fragments and gave way to smoke. Then another section and another, till within a few minutes, the whole structure was in ruins.

The great guns were silent. The battle was over. I had no heart to tune in on the reports of the battle, and at seven o'clock made only a brief broadcast. I said: "Now that the army and navy had been defeated, and the fort and arsenal destroyed, it seemed there was no longer any reason why anyone should oppose the migration's getting under way, and I hoped no further time would be wasted in futile resistance."

After signing off, I again tackled the problem of what should be done with all the people.

Since we were an English-speaking people, it would appear that England and her possessions was the desirable haven; but on the other hand, if they offered sanctuary to the peoples of Canada, they would be doing all that could be expected of them.

As for Mexico, I had hopes that since much of that country was undesirable, the inhabitants might be allowed to retreat to the jungle and lowlands until some permanent disposition could be made of them. But there could be no doubt that all the people of the United States must be gotten away without much outside help.

NO great nation had ever faced such a situation. True, other nations had been driven out and forced to overrun adjoining territory. They had been captured and sold into slavery, or subjugated and made to serve their captors as serfs; but never before had they been obliged to cross overseas *en masse*, suddenly cut off from their own country.

I retired, more undecided and befuddled than ever.

In the morning I awoke with a fairly clear mind. Now there seemed to be no question as to what I should do. Since the problem was too deep for me, I would take it to Doctor Good. Heretofore, any questions that I had taken to him had offered no difficulties to his mind.

I found Dr. Good in his office, as ever serene and cheerful. But he grew soberly thoughtful when I told him what I had come to talk about.

"It does appear to be a rather deep question," he agreed. "But the difficulties are only psychological. You realize, of course, that there is room in the Eastern Hemisphere for a dozen times as many people as there are in existence. It's only up to you to get them in a mind to go there, and to remove all obstacles in the going. Our little affair of yesterday should certainly have stimulated their desire to depart. But it is not for me to bother with details. I have turned this whole business over to you, and have given you all the help at my disposal to take care of it."

The interview was ended and I rose to go.

"Of course, you know," he added, relaxing to his customary mildness, "that in order to fire a people with any enthusiasm, you must give them some great project to accomplish, something definite and worthwhile to do.

"You have a free hand, and it would be poor policy for me to weaken your initiative by offering suggestions. I can assure you, however, that we are ready to cooperate with you in carrying out any plan that seems feasible.

"Anything we have, such as maps of Asia, charts, and so forth are at your service."

I came away feeling that the last hope had failed me. I had hoped for wisdom and I received bromides and platitudes.

Of course, I said to myself bitterly, I will have to carry on now that I have gone so far.

Back in my own rooms I resolved in desperation to go over the possibilities again. Was there really so much unused area? And if so, where?

I wondered why Doctor Good had mentioned maps of Asia. Was it because his superior mind had gone on ahead of mine and decided that in Asia was the only logical place?

I fell to thinking about the vast extent of that continent; Of India; of China; of Siberia; and then of Central Asia. Of this last region I knew discouragingly

little, except that it was very extensive and sparsely settled by independent tribes who were so hostile to explorers that it was difficult to find out anything about the resources or the potential wealth of the country.

It was with some resentment that I remembered with what severity and barbarity scientific and exploring expeditions had been treated when venturing into these wilds. Then, of a sudden, I realized that my problem was solved. Here was the place to go.

Central Asia's wonderful possibilities for development, and the peoples we would have to displace had never shown themselves worthy of great consideration. I wondered I had not thought of it before. . . .

But how to get across half the world? Two oceans and at least a thousand miles of land, most of it mountainous, would have to be crossed. It would require a long voyage in ships and a long one by camel caravan. But no, we would be more modern. We would travel by automobile or railway. We would build our own road. It would be a tremendous undertaking! But that was just what we wanted.

In a trice my mind was going nimbly on, building a vast steel and concrete dock somewhere on the shore of the Indian Ocean, equipping it with all modern unloading devices—cranes, derricks, shovels, electric carrying magnets.

Laying down a smooth road, a quarter of a mile wide, back toward the mountains, as one might unroll a magic carpet.

IN my mind's eye a dozen parallel lines of railway glistened in the sun; while streams of airplanes and dirigibles sped back and forth from the sea to far inland cities, which should spring like mushrooms from the ancient soil where once had been the home of primitive man.

So engrossed and fascinated did I become with my new thoughts, that I sat until far into the night.

First of all we must, so I decided, get an army of men over there to build the great docks. The remnant of the defeated army would do for a start. They must have shiploads of materials. But before that we must have engineers on the ground to choose a site and lay out the work.

They ought to go by airplane at once. And experienced explorers should fly over the country immediately to choose districts to be settled and sites for cities.

Of course, we must have a new Washington, and a newer New York.

Ships were the greatest need. We must recondition all old ones. Buy all that could be had all over the world. Charter everything that was for hire. Surely we had money enough. Wasn't America rich in gold and goods?

We must start transportation right away. Load the holds of the ships with building materials and the decks with people. The people could go into camps by the sea until it was possible to get inland. We should have to carry food for them. . . . That was easy. Would we not have on hand more stores of grain and provisions than we would know what to do with?

If we lacked materials for railways, we could tear up some of our old ones. If we ran short of building materials, we could tear down part of San Francisco or Seattle. We would take our horses, cattle, machinery, our money and—perhaps—furniture; possibly some of the buildings. It would be a fine and patriotic thing to be able to take the dome of the capitol at Washington and ultimately set it on a new and grander building in the new capital city.

Even after I fell asleep, I dreamed of a wonderful new country where roads, buildings and cities were all being completed on a magnificent scale and in vast grandeur.

In the morning I awoke bleary-eyed and with my ardor much dampened. After a session of calm thought, however, I decided the plan I had was as good as any, and that I might as well get it under way.

But how? That was the question.

Would the people accept it? I considered the scheme of throwing out hints and leaving it to the people to develop the idea independently as their own. But time forbade any such dilatoriness. It was to be expected, even when—and if—the people were convinced, that the legislative bodies and government departments would amend, vacillate and disagree for weeks and indulge in endless red tape, even if a definite program was presented. I was convinced that it must be a government project, and be prosecuted with all the vigor of a war measure.

During this day I had a long talk with Wat, but was unable to get very much out of him. The battle had about destroyed his morale, and I had to go it alone.

After some hesitation I determined to put the proposition on the air just as it appeared to me and see what would come of it.

During the day, somewhat guarded air announcements indicated that the government was ready to admit its inability to cope with the powerful enemy. At the same time, leaders of the Pro-Tower Society were insistently demanding that government make the best of a bad situation and commence at once to arrange for the migration.

Official announcements were forthcoming from most European countries and rebroadcast in America, proclaiming that they had no room for refugees and that none would be admitted. America had island possessions, said one Prime Minister, let her make the best of them.

When I went on the air at the usual hour, I was full of misgiving, but I lost no time in coming to the point.

There was a vast country in Central Asia, I told my unseen audience, having an equable climate and great resources, which could be had by purchasing a right-of-way through a seacoast country and repeating our old Indian tactics with the nomadic inhabitants. It seemed the obvious and reasonable thing for the President to send engineers and explorers by air and builders by boat at once.

This plan would eliminate the necessity for war with any of the major powers, but the campaign of migration should be organized on the same grand scale as was the recent war.

It was, of course, I concluded, a tremendous undertaking, but not too large for American energy and ingenuity.

I signed off and went to bed, half dead.

I shall not dwell on the happenings of the next few weeks, except to say that my plan was quickly adopted and carried out with extraordinary vigor.

Money and materials rolled in from all sides. South America, when she found she was not to be inundated,

was quick to offer assistance. Europe also was generous.

Throughout the country enthusiasm and hope took the place of fear and dejection. The steady stream of ships that was presently plying back and forth, loaded to capacity with materials and people, comprised every known variety of sea-going craft. Schooners, square-rigged sailships, whale-boats, tramp steamers, lake freighters, colliers, yachts, excursion boats and ocean liners; all were in the parade and all were going at top speed.

As soon as it became apparent that there was to be no more need of "war," the World of a Thousand Men, having gathered up a few thousand of the robot army, the ones who had never crossed the river, and leaving the rest where they lay or stood, sailed away over the Arctic regions again.

For a short time the S.R. were busy with their own preparations. They were arranging their estates, which, it now appeared, they intended to occupy only during three or four months of the year.

I saw very little of Wat. He was kept busy about the factories and in the internal machinery of the asteroid, making an exhaustive study of all their wonderful mechanics and at the same time trying to learn as much of the language as possible.

He took a lesson in language every evening, he said. But he was strangely reticent about the details of his studies.

At Doctor Good's insistence I also commenced a course in language under the direction of an old man. His method relied largely on phonograph records and pictures. He only stayed a few minutes each day and rarely spoke more than a few sentences. He knew no English.

I was, of course, impatient to be back among my own people; I was certainly fed up with this life, but the director declared that Wat and I must stay on the asteroid until the whole country was cleared. Later, he said, I could go and live in the new capital. He would make me his permanent ambassador to the new country. Or, if my people cared to make me ambassador to the "World," he would be glad to have me remain as their representative. What he planned for Wat's future, he did not say.

The date for the final departure of the Americans was drawing close. But despite their strenuous efforts, and their excellent progress, not even the major portion of them could possibly be out of the country on time.

From time to time I was besought by radio to intervene, on behalf of the people, for an extension of time. Finally, I went to the director about it.

"Well," he said, after listening to me, "since everything is going smoothly, I dare say we can well be lenient. But we want some territory completely cleared at once, so we can start our robots at work on our plans. Tell them to clear the central portion of their country first, so we can have it soon, and the rest may have more time."

I assured him that his orders would be carried out to the letter.

A few days later we were hovering over the Mississippi Basin, and presently we settled down in a locality that had been previously chosen for initial operations.

The farms and towns were all deserted. Buildings were standing empty, save for such furniture and other objects as were too heavy or cumbersome to take along.

Robots by the thousand started laying out formal gardens, creating artificial lakes, reforesting and landscaping and generally beautifying an already beautiful countryside.

This first development, I was told, was to be the estate of the director; and here Station X was to be permanently located for year-round service.

Wat superintended the dismantling and rebuilding of the plant. He exhibited considerable pride in showing me how he was arranging the new and larger power plant and installing greater conveniences in the studio, and how he had designed some automatic devices to do away with the services of the engineer and mechanics.

One day the director called me into his office.

"We have decided to take the 'World' to another estate for a few days," he said, "and while I am gone, I want you to make a special effort to hasten the emmigration processes. In ten days all the east coast must positively be cleared.

"We plan to reserve one of the larger cities for a museum piece, and burn the rest. They are too hideous. . . . We will landscape their sites. I shall probably be gone three days."

The evening before the departure, Wat came to say that he had decided to go with the "World"; they had given him his choice of going or staying with me.

I thought his manner peculiar.

"You are not contemplating anything rash, are you, Wat?" I asked.

"No," he replied thoughtfully. . . . "I don't care much for these folks. They are so distant and suspicious. You know, every day I get madder and madder about what they are doing to us—and to everybody. It wouldn't take much to make me do something desperate."

"Don't be foolish," I warned. "There is nothing we *can* do."

"Well, wait and see," was his cryptic remark. "The last chapter hasn't been written yet."

And so for three days I was left alone in my quarters with a huge pile of building material on one side and on the other a picturesque little artificial lake, which communicated by miniature canal with the larger lake a little distance away. Dotted about over the landscape were the robots, left standing in natural attitudes.

Since they were constructed of rustless material, they were quite impervious to the weather. The operators, therefore, did not bother to gather them, preferring, since there were plenty more for the other job, to leave these at their stations where they would be all ready to resume their duties when the "World" should return with its motive power.

And there they were: half a dozen digging a ditch; some with spades uplifted; two carrying a basket of soil; one pulling a post, and a group holding up a tall, transplanted tree with ropes and pikes; while two or three others were apparently just finishing the business of tamping the soil around its roots. They were a funny sight.

In the daytime I rather enjoyed seeing them about. They lent a needed touch of life to the deserted surroundings; a domesticity that was quite charming.

But to look out and see them at night—that was entirely another matter. In the darkness, or by moonlight,

they had an eerie, spectral appearance that was strangely disturbing. Perhaps it was because my nerves were wrecked by all the distressing experiences of the last few weeks. At any rate, when night fell, the scene outside my quarters lost all its charm. I was glad the "World" was to be gone but three days.

The afternoon and evening of the third day I spent, except for the period of my own broadcast, in listening for the most part to reports of the progress of the migrations.

It was the occasion of the opening of the two new super-stations of America-in-Asia. One at the giant landing docks, "Plymouthasia," and the other a thousand miles inland at New Washington.

There were programs extolling the builders of the stations, so powerful that they could reach around the earth; programs extolling the cabinet ministers who had charge of the shipping, of the overland route, of the building operations, of the evacuation problem at home.

It was late when I sought my couch; and even then I could not sleep. Many thoughts hounded me—none of them pleasant.

Not the least of my worries was Wat. Why, precisely, did the blunderer go off on the "World?" Was it because he was interested in that girl, Fara Foru?

No. There had been nothing to really make me think that.

The rashness of which Wat had already been guilty while on the planetoid came back to me. I wondered if he could be contemplating some secret plan. . . . But I had troubles enough of my own, so I resolutely put that thought from my mind.

That night, however, my dreams were troubled. Several times I saw the robots around the transplanted tree leave their posts and gather in a group like a little knot of conspirators. Always they glanced and pointed toward my quarters, with burning yellow eyes and cold, metallic hands that glinted in the moonlight. . . .

A hand on my shoulder—an urgent voice in my ear—was it one of the robots? Was this part of my nightmare?

Strained, excited, the voice went on. "Wake up, old man, wake up! It's me. I'm back." It was Wat. He half pulled me out of bed.

"Get up," he urged. "Listen to me, you. *I think I've got them done for!*"

"What? What's that you're saying!" I asked, finding my voice and springing up. "Who is done for?"

"The Super Race," he replied. "And the asteroid."

"W-h-a-t?" I gasped, incredulous.

"Yes," he declared. "I've set a bomb; an infernal machine, for them; and if it does what it ought to, we're free—all of us!"

"Impossible," I protested, reaching for my clothes.

"No. It's true," he asseverated. "Put on your clothes. It's almost time."

"I know you're crazy," I said, "but I'm listening."

"Well, you see, when I left here I had a scheme. I didn't tell you, because I didn't want to disappoint or alarm you needlessly.

"All the machinery for charging the magnets that counteracted the gravitational pull of the earth were in one great room, you saw them—— They were the big blue machines that always sent out the long streams of blue flame every few minutes," he went on rapidly. "There were a dozen or more of them, for safety sake.

"I learned that if two or three of them were going at once, it was enough; but if by a long chance they should all stop at a critical moment, it would be just too bad.

"On one side was their great oxygen tank, and on the other the hydrogen. (You remember how the fellow explained they combined the two gases to create their artificial rain?) And you remember the pressure gauges and all the other indicators were behind plate glass windows inside the tanks.

"Well, my scheme was to break these heavy panels of plate glass, to allow the two gases to pour into the machine-room, thus causing an explosion, as hydrogen and oxygen always do when brought together in the presence of a hot flame. In this case the machines would furnish the flames.

"The force of the explosion and the resulting water could be depended upon to stop all the machines, and suddenly subject the asteroid to Earth's gravity. This, of course, would be a very good thing." He smiled grimly.

"Yes, yes, go on," I urged eagerly.

"Well, perhaps you know that my father was a safe expert. I was with him on several occasions when he went to open safes that burglars had tampered with, so I learned how the trade uses nitroglycerin—('soup')—in door cracks to blow up safes.

"I was sure that in a similar manner the glasses could be blown out of their places, to cause a great rush of both kinds of gas, especially as those tanks are connected by great tunnels to the distant reservoirs."

——"I didn't know about the reservoirs," I interrupted. "Where are they?"

"There are half a dozen of them scattered around. They are just under the surface, and landscaped over so you didn't see them. I knew about them. They ought to collapse when the pressure is removed—but we don't have to depend on that.

"The machines, I knew, were controlled from the minister of mechanics' office, and no one but an oiler, who served as watchman, was in the so-called "blue room" after working hours. I concocted some 'soup' and a time detonator. I knew the orders were to cast off and sail back here at 19-37-11, so I went to the blue room, surprised the watchman, and put him out of the way. Then I set my explosives.

"I tamper the 'soup' in with a liberal supply of soap, and set the clock for 19-37-26. Then I got out. Once outside again, I stole one of their substitutes for automobiles and hit the pike.

"Of course, I wanted to tell you. I made the fifty miles in forty-five minutes. Come on, let's get out, maybe we can see something."

WE hurried out and ran across a small park to the edge of the high lake bank, in the direction from which the asteroid ought to come.

"It's time right now," Wat puffed as we emerged from some shrubbery near the bluff.

"Look There it is!"

It was indeed the "World." There it was, high in the sky and far beyond the lake. Its huge outline was clear-cut against the moonless sky, and its dark surface was peppered with a myriad of twinkling lights.

The giant searchlight was throwing its vast cone out into space; a moment straight into the sky, then with

phantom quickness describing a great arc to drop a circle of brilliant yellow on the blackness of the lake. Then away to some distant hill.

Although the planetoid was miles away, it loomed so tremendously large, it seemed utterly impossible that any man-made contrivance could destroy it.

Did you ever hold your breath for five minutes? Well, we did. Or at least it seemed that long. Then Wat spoke dubiously.

"I hope I didn't make any mistake. You see, I had to use one of their funny time-pieces; but I am sure I calculated the minutes correctly. I checked it half a dozen times."

"They've probably found your stuff and squelched it," I ventured pessimistically.

At that moment a quick blaze of bluish light appeared near the top of the great ball.

"There it is! That's it!" Wat cried in great excitement, pointing and rushing forward almost to the brink of the bluff. "That's the color for rain gas. The tanks must have let go!"

Of a sudden a great flash of light illumined the whole sky, and the earth shook from a detonation as of a thousand cannon.

"That must be the reservoirs," Wat declared. "I hope they all go."

At that moment a wide flash of fire, as of a dozen streaks of lightning rolled into one, traversed in zig-zags half across the asteroid with a great roar that ended in a blinding glare, while great tongues of blue flame leaped upward toward the zenith.

All was dark again. Then a deep red flame broke out toward the bottom and spread with unbelievable swiftness. Like a vast prairie fire driven by a cyclone it went rolling and billowing in all directions, until the whole ball seemed one flaming mass.

For a long moment it hung stationary, while its counterpart glowed far below in the still waters of the lake.

Then it wavered from side to side and gave a quick downward lurch.

"It's coming! It's coming!" yelled Wat, seizing my arm in such a frenzied grip that for an instant I almost forgot the spectacle.

Wat was right. The great body started slowly to descend, leaving clouds yellow, green and cobalt behind.

Then with a quick jerk it fell, filling the whole southern sky and the mirror of the lake with a great expanse of flame.

Down! Down! It traveled with meteoric speed. I held my breath and braced myself.

There was a tremendous impact that almost threw me down, and a vast crashing roar as if the whole world were getting torn apart. A moment's darkness; then a great cloud arose beyond the lake, like the white exhaust of locomotives on a frosty morning. As it lifted, it revealed a mountainous heap on the horizon—an oval in the middle and on either side an abrupt hump.

Wat released his viselike grip on my paralyzed arm. "Smashed all to flinders," he ejaculated with deep satisfaction, striding forward to the very edge of the cliff.

"Come on!" I cried eagerly. "We must send the news!"

But there he stood like some heroic statue, with his eyes fixed on the distant ruins. Did he even hear me, I wondered? Well, it was no matter.

I turned and ran to the studio. Stopping only to pull the great lever that operated all the controls, I rushed to the microphone.

"This is Station X!" I shouted.

"Station X, calling America . . . Calling the World! The Super Race is gone. Their world is destroyed.

"Come on, America!

"The country is yours again."

THE END

What Do You Know?

READERS of AMAZING STORIES have frequently commented upon the fact that there is more actual knowledge to be gained through reading its pages than from many a text-book. Moreover, most of the stories are written in a popular vein, making it possible for anyone to grasp important facts.

The questions which we give below are all answered on the pages as listed at the end of the questions. Please see if you can answer the questions without looking for the answer, and see how well you check up on your general knowledge of science.

1. What was the easily disproved old law of the speed of falling bodies? (See page 391.)
2. What may be called the basic simplicity of chemistry? (See page 391.)
3. Is chemistry a distinctively modern science? (See page 391.)
4. What two laws of astronomy may be cited as simple? (See page 391.)
5. What should be done to make gold out of mercury? (See page 396.)
6. How can the human brain be described? (See page 402.)
7. What is the theory of the planetary atom? (See page 407.)
8. What determines an element distinguishing one from another? (See page 407.)
9. What is the structure of the hydrogen atom? (See page 418.)
10. Do electrons bombarding atoms ever reach the protons? (See page 418.)
11. Describe the limitations of man. (See page 420.)
12. Give examples of the source of tallow, suet and lard. (See page 431.)
13. What is the name of one of the principal asteroids? (See page 432.)
14. How can a mixture of hydrogen and oxygen be made to explode? (See page 455.)
15. What is the approximate distance of Jupiter from the sun? (See page 462.)
16. What is the name of the largest satellite of Jupiter? (See page 462.)
17. What is the relation of illumination to the distance of its source? (See page 462.)
18. Is Jupiter supposed to be hotter than the earth? (See page 463.)
19. What is the diameter of Ganymede? (See page 463.)
20. About what is the intensity of light which Jupiter receives from the sun compared to that received by the earth? (See page 463.)

Beyond the Planetoids

By Edwin K. Sloat

(Continued from page 429)

THEY listened in growing amazement as he outlined it. Silence followed.

"Well, what do you think of it?" he asked impatiently.

"I—I don't know," replied Hinch uncertainly. "It looks like a new form of suicide to me, but I reckon Death is going to take this pot, any way we play it."

Sidler coughed.

"Anything is better than Corvus," he observed gloomily. "We're done for anyway. We might as well try it."

The others agreed, and hastened to their allotted posts. Corvus' ship was quite close now. The stabbing of its heavy rays was beginning to puncture the electronic shield and bite into the hull of the *Death Head.* Basil selected the heaviest disintegrator rifle from the rack nearby and began swiftly to cut out a four-foot circle in the port side of the cabin. The ray of the weapon bit through the heavy Voison steel as though it were butter. A circle from the inner hull came free and fell outward. Rapidly he cut out a corresponding circle in the middle hull, and another in the outer wall. The rush of escaping air carried the segment of the outer hull far out into space. Charts from the table and other small loose objects in the cabin, including hundreds of dying lizard mice, were swept out of the opening as the air rushed out into the emptiness of space.

As he dropped the rifle, the lights of the ship dimmed momentarily, as Smith on the gun deck discharged a volley of rays from the super-rifles at the *Medusa,* which was now a scant mile away and was blasting them mercilessly. Smith's volley was mere camouflage.

"Hurry men!" cried Basil, as he dove into the emergency repair chest beside the control table and pawed out a long length of thin copper wire. He looped one end about the control lever at the table, and clambered hastily out through the hole in the ship into space, unrolling the wire as he went.

"All clear?" he asked tersely into the speaking disc.

His six companions were already out of the craft, and answered affirmatively. He jerked the wire hard and let go of it. Instantly the big space ship slid away from him in a wide arc toward Corvus' craft. Only the safety checks built in the propelling mechanism kept it from leaping toward the *Medusa,* a factor that Basil had planned on.

Corvus must have seen it sweeping toward him and failed to realize his peril—as Basil calculated he would. Corvus obviously judged the maneuver to be a dying, frenzied effort to get the *Death Head* inside his own electronic shield and blast him with every ray Basil could muster. Basil could imagine him smiling contemptuously as he drew off, allowing the *Death Head* to inch almost up to him while he inflicted terrible punishment, so he thought, with his heaviest batteries.

Ten miles across the Void away from Basil and his companions the two ships moved. Then a magnificent, blinding flash burst against the eternal curtain of space, as a terrific explosion tore the two pirate ships into a thousand pieces and sent them hurtling soundlessly into the depths of the Void.

"I never thought it would take him that long to hit that polarized motor," remarked Sidler pessimistically. "He must have set off ten million volts at least in ray bombardment."

The others remained silent, awed by the masses of steel with their serrated edges gleaming sharply in the sunlight that came hurtling past them. The body of a man, spinning rapidly, shot past. Basil wondered fleetingly how many hundreds, and thousands of years it would continue to spin on its long, long journey through the Void. Then he called the roll.

All the men answered and drew together, seven human motes floating in the tremendous infinity of eternal space. Only the distant sun, like a yellow arc light millions of miles away, and the nearer glowing mass of Jupiter stood out strongly against the canopy and bottomless abyss of everlasting stars. Basil pointed at a large glowing planet.

"There is Callisto, one of the great moons of Jupiter," he said in his speaking disc. "As I told you when I explained this plan, these suits are the most modern I've ever seen—even to propulsion rays. They are almost space ships in themselves. Callisto there is but a few hundred thousand miles away. With the speed these suits ought to develop, we can make it, and the gravity plates will permit us to make a landing. I know it is unbelievable that men can deliberately leave a ship in space, aided and protected merely by space suits, and make such a journey as this. But, men, I'm telling you we can do it! Come on; let's get going!"

Obediently they clasped hands and floated away with gathering speed for a happy landing on Jupiter's fourth satellite.

THE END

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The Purple Monsters

By Bob Olsen

Author of "The Man Who Annexed the Moon," "The Ant With a Human Soul," etc.

IF our present state of affairs continues much longer, the exploits of gangsters and racketeers will no more be news, and papers and reporters may become hard put to it to find materal for flashing headlines. That's where Bob Olsen comes in, with his usual genius for finding something new. And though it would be no laughing matter, if what he portrays really did take place, our author furnishes us with plenty of honest amusement in this short science fiction gem.

Illustrated by MOREY

Preposterous Visitors

WALTER GARFF, police reporter of the *New York Evening Express,* was seated in a dentist chair on the forty-sixth floor of the Empworth Building when he first saw one of these amazing, indescribable Purple Monsters.

His dentist, Doctor Sellwood, had just started to explore a particularly sensitive spot, when Garff pushed away the chubby hand which held his mouth open and let out a startled yell. His scream, however, was not inspired by the torture of the drill. It was caused by something he had seen through the office window. Just outside the pane an amazing object was hovering. It made Garff think of nothing but a claw, although it was enormously larger than any claw had a right to be.

He had hardly had time to utter his cry of surprise and to point a trembling finger at the astonishing thing when the gigantic talon came crashing through the window. It filled the opening completely, smashing the glass to fragments and splitting the steel framework as if it had been made of paper.

Garff leaped from the chair and threw himself flat on the floor just in time to save himself from being mashed like a helpless insect against the rear wall of the small office.

There was a terrific jolt that made the skyscraper quiver. It was followed immediately by a crash that sounded like a thousand peals of thunder rolled into one ear-splitting second.

Garff staggered to his feet and glanced about him. The dentist had disappeared. Not only that, but he had taken the walls and ceiling of his office with him.

Looking upward, Garff saw a curious sight. Fifty feet above his head, the upper portion of the great building hovered. Tilted at a precarious angle, it swayed drunkenly to and fro as if supported in midair by some miraculous force. He could make out the pigeon-hole designs traced by the partitions of rooms and corridors against their ceilings. Streams of water gushed from severed pipes. Ragged ends of wires crackled and sparked against each other. Dangling from cables of various lengths, four elevators, jammed full of screaming human beings, swayed to and fro.

For a few seconds the severed portion of the building hung there. Then it swayed to one side and crashed down upon the adjoining roofs, revealing something that sent tingling shivers racing through Garff's anatomy.

Towering above him as he stood there frozen with fear was a preposterous, living head. It was unlike anything he had ever seen or even imagined—the head of a monster that could belong only in the mind of a person suffering from an unspeakable nightmare.

The face—if face it could be called—was shaped like a colossal inverted pear. In the sides of the head were two ridiculously small openings which must have been eye sockets. They were protected by half-oval, shell-like lids which were nearly closed, leaving open only deep, narrow slits. From between them hung a long tenuous proboscis, which reminded Garff of an elephant's trunk. It seemed to bisect the animal's mouth, which was lipless and was armed with double rows of wicked, pointed teeth.

Despite the horrible beastliness of the Thing, Garff could not help but feel that it was a reasoning being—superior in knowledge and intelligence. This impression was further corroborated by the high, bulging forehead which suggested that it must harbor a mighty brain.

Dropping to his knees, the reporter peered over the

. . . He had nerve enough left to pick up the gun, aim it at the trunk which hovered over him, and pull the trigger. There was a loud report, and the powerful gun recoiled, making the reporter stagger.

edge of the broken wall. The monster had four arms and two legs. Far below him, Garff could make out the outlines of a four-toed, webbed foot. It completely filled the roadway from curb to curb and overlapped parts of the sidewalks. Garff could not see the other foot, but from the straddling position of the creature he inferred that it was planted somewhere a block or two away. The body, head and limbs of the beast were covered completely—by smooth, overlapping scales. From them was reflected a blinding, purple glare, which dazzled him painfully, reminding him of the effect which the odor of ammonia has upon the nostrils.

The lower pair of arms were still hanging to what was left of the Empworth Building. It was quite apparent that the two upper arms had ripped off the top of the building while it was being held firmly by the other arms.

Assuming that the being, whatever it was, *did* possess intelligence, Garff couldn't help wondering why it had performed such a senseless act of vandalism. But he ceased to speculate about this when he saw that snake-like trunk dart down into one of the offices and come away with a screeching girl held fast between its pointed lips.

The animal's shell-like lids opened, revealing eyes that looked surprisingly like those of a human being except they were much larger, of course. Garff noticed that they had dark-red irises, against which the tiny, black pupils looked like shoe-buttons. As they regarded the hapless stenographer, the pupils of these strange eyes became still smaller. Apparently satisfied with the scrutiny, the monster thrust the woman into its mouth, gingerly bit off her head and crunched it like an Eskimo boy nibbling on a sardine. The lids closed and the Thing cocked its head to one side as if trying to decide whether the morsel was worth swallowing. It seemed to like the sample, for it tossed the rest of the girl's body into its mouth and reached out for another stenographer.

Realizing that he was in a conspicuously exposed position, Garff leaped over the inside wall of the room and ran down the corridor. Fortunately he was one of the first to reach the stairs. As he sped down the first flight he looked back just in time to see that terrible trunk wrap itself around a score of men and women who had become jammed in the entrance to the stairway.

With the fear of death giving wings to his feet he bounded downward. Since it took several minutes for the people on the lower floors to learn what had happened, he managed to reach the twenty-seventh floor before he was caught in the screaming, insane mob of fugitives who struggled ineffectually in their efforts to fight their way to the street.

Suddenly Garff forgot that he was a hunted animal fleeing for his life and remembered that he was a reporter. Squeezing through a narrow doorway and worming his way through a corridor which was choked with frenzied men and women, he burst into a deserted office. He grasped a phone and dialled a number, half surprised to discover that the instrument was still useable.

"Listen, Chief," he yelled when he finally had the city editor on the line. "I've got the biggest story that ever broke. Is it too late for an extra?"

"No, it isn't too late. I'm holding the mechanical staff. The presses are grinding out our second extra right now. I suppose you are going to tell me that you have seen the Purple Monsters."

"My God! Are there more than one of them? I thought sure I'd score a beat on this story. Looks like I'm late."

"Not necessarily. What have you got?"

"I'm phoning from the Empworth Building. I was on the forty-sixth floor a few seconds ago when one of those purple babies tore off the top of the building and started chewing up stenographers Is that a story or isn't it?"

"I'll say it is. I'll have Murphy take it over the phone. Never mind describing the beasts. We have all that already. Make it a story of your own personal impressions. How it feels to be hunted by a Purple Peril or something like that. As soon as you finish phoning the dope to Murphy, you'd better beat it back here. Get me?"

GARFF was right in the midst of dictating his article to Murphy when the building gave a lurch that sent him spinning across the room, jerking the telephone wires out by the roots. Scrambling to his feet, he staggered along the tilting floor and stuck his head out in the corridor. Daylight was streaming in through an enormous fissure which split the building vertically. Like a bear, peeling off the bark of a rotten stump in search of grubs, the Monster had ripped asunder the huge mass of steel and cement.

After a terrific struggle, which seemed to last for hours, Garff managed to reach the ground floor.

The street in front of the Empworth Building was like a scene from Dante's Inferno. Thousands of men, women and children were pouring out of the buildings, screaming, gesticulating and fighting each other like maniacs. They tried to get away from that fearful spot but could not, because all avenues of escape were choked with struggling humanity. Pedestrian, automobile and street car traffic, suddenly dammed by the foot of the Purple Monster, had become hopelessly tangled. From all directions people who had not yet seen the Thing were crowding toward the scene of the disturbance, morbidly inquisitive to know what was wrong. They formed an impenetrable barrier to those who already knew and were trying to escape.

As he crouched in the entrance of the building, Garff saw a traffic officer, who apparently had more courage than common sense, draw his gun and clamber up over one of the enormous toes of the creature. Aiming at a crack between two of the overlapping scales he fired six shots in rapid succession.

The bullets glanced off, but they must have been felt by the monster, for it let go of the building with one of its lower arms and brought its paw against its foot with a smack that made the ground tremble. When the terrible hand came away there was nothing but a shapeless, blood-strained smear left of the brave policeman. He had been flattened out like a swatted mosquito.

Though his intentions had undoubtedly been praiseworthy, the officer's act led to the death of thousands of people, since it diverted the monster's attention from the relatively few individuals still in the building, to the helpless crowds in the street.

The preposterous head bent down until it was stopped by the roofs of the buildings. A monstrous hand swooped down, gathering up scores of kicking, shrieking

human beings and squeezing them together in its fell clutch. An instant later the victims all disappeared in that horrible, lipless mouth. Again and again this performance was repeated until a wide swath had been cut in the mob of frenzied people.

Hugging close to the buildings, Garff managed to make his way out of the danger zone. His ears caught a familiar sound:

"EXTRA! EXTRA! All about the Purple Monsters!"

He bought a paper and hastily scanned the story which, printed in large type, covered the entire front page of the *Evening Express:*

MONSTERS INVADE N. Y.

Hugh Space Ship Brings Giant Man-Eaters

Three Purple Perils Believed to Be Visitors from Mars Now at Large in City

New York, October 15, (*Exclusive*). Trampling pedestrians, automobiles and street-cars under foot, tearing apart skyscrapers as if they were made of cardboard, murdering and eating thousands of men, women and children, three horrible monsters ran amuck in Manhattan's most congested business district this afternoon.

It is estimated that the beasts are at least six hundred feet tall and one hundred feet broad. They are bipeds. In addition to their two legs with webbed feet, they have four arms which they use for holding and tearing apart anything that comes in their way.

The first warning of this frightful invasion came just before four o'clock this afternoon, when a strange, egg-shaped craft soared over the city and alighted in Central Park, crushing trees, buildings and people beneath it.

At first it was thought to be a new type of dirigible that had crossed the Atlantic and had made a forced landing in the only open space large enough to accommodate it, but this theory was proved false by subsequent events. The most plausible explanation is that the unwelcome visitors arrived on the earth from some distant planet, after having navigated the airless void in a space-ship of grotesque design. Emerging from their craft the three monsters started forth on a tour of the city, crushing street-cars, automobiles and small buildings beneath their feet.

It soon became apparent that the beasts were foraging for food. Not finding any larger game, they began eating human beings, scooping them up in great handfuls from the street. One of them discovered that all the buildings were full of people and began to tear the skyscrapers apart in its horrible search for provender.

Another of the Purple Monsters concentrated its attention on the elevated trains. Picking up a string of steel coaches, it cracked them open with its teeth. Like a boy removing the kernels from a handful of peanuts, it swept the passengers into its mouth and devoured them.

Because of the unprecedented confusion following this horrible disaster, it is impossible to estimate the damage already done by the monsters. By the time this edition of the *Express* is being read, the city will undoubtedly be under martial law.

Whence Came These Horrid Brutes?

AFTER reading the article, Garff hurried to the Express Building. He sat down at a typewriter and finished the story which he had started to dictate to Murphy but which had been interrupted by the splitting open of the Empworth Building.

Slapping the typewritten sheets down on the City Editor's desk, he said, "What next, Chief?"

"Know anything about science?" the City Editor demanded.

"Only in a superficial way. When I was in college I fooled around the physics laboratory a bit, so I was exposed to science. But I didn't catch a very bad case of it."

"How about astronomy? Know anything about stars and planets and satellites and things like them?"

"Somewhat. But I could hardly pass off as an astronomer."

"Do you know enough about it so you can interview a real astronomer and understand what he is talking about?"

"I can make a stab at it."

"O. K. Go to it." And the editor picked up a phone and said, "Give me Moss."

"What do you want me to do?" Garff cut in.

"Do I have to spell it out for you? Can't you get the angle? Everybody naturally wants to know where those Purple Monsters came from. Maybe some of these big College profs will be able to ferret out their former address from the shape of their teeth. Do you see what——"

He interrupted himself, "Hello, Moss. What the Devil has happened to those prints of the Purple Monsters?"

When he had received the photographer's reply he roared, "I don't give a damn how wet they are. Bring them up here as is!"

Turning to Garff, he went on, "Moss got several good shots of the Purple Monsters. He's on the way here with the prints. What I want you to do is to take those photos to about three of the best astronomers in New York. It's up to you to pick them out and get to see them. They'll probably ask a heap of questions. Having seen one of the monsters, you'll be able to tell them all about it. As soon as you get the material, phone me or beat it back here and knock out the story. Make your lead something like this:

"PURPLE MONSTERS FROM VENUS SAY LEADING SAVANTS

"Interviewed by an *Express* reporter, Professor Oswald Whossis, P.D.Q., head of the astronomy department of the Humpty-Dumpty University, expressed the well-founded opinion that the Purple Monsters who have been creating a reign of terror in New York City, are natives of the planet Venus. In this contention he was supported by Doctor Archimedes Dinkelspiel, R.S.V.P., curator of the Blankety-Blank Observatory.

"An entirely different theory was advanced by Professor Humpty-Dumpty of the Dingbat Insti-

tute of Technology, who stated that there is every scientific indication that the Purple Monsters came from the Moon.

"The reasons given by Professor Whossis were blah, blah, blah. Doctor Dinkelspiel declared blah, blah, blah. On the other hand, the assertions made by Professor Humpty-Dumpty were blah, blah, blah. Do you get it, Walt?"

Garff grinned and nodded.

"All right. Here's Moss with the pictures. Pick out the one you like best. Better carry it in your hand until it dries. And now—on your way."

One hour and thirty-seven minutes later the city editor was informed that Garff was calling by long distance phone.

"Boy, oh boy! What a story I've got for you this time!" the reporter enthused. "I pulled a slick one, I'm telling you Chief. I took a chance and——"

"Never mind about apologizing, Garff," the editor snapped. "I'm not interested in your inferiority complex. If you got the story, that's all I want to know. Tell it to Murphy. Hold the wire and I'll switch you over to him."

Garff simply had to brag to someone, so he started on the rewrite man, "Listen Murph, old stump. I sure pulled a good one this time. The Chief told me to make the rounds of the colleges and to interview a bunch of profs and get their opinions about the Purple Monsters. Instead of doing that, I took a chance and drove straight to the Mount Beverly Observatory. Took me nearly an hour to get here, but boy, oh boy, was it worth it? Whom do you think I caught here? None other than Professor Emile Chateaubriand."

"How do you spell it?" was Murphy's practical query.

"C for claret, H for hootch, A for applejack—oh Hell, Murph, don't ask me to spell that bozo's name. If you don't know how to spell it, look it up in the morgue. You know who he is, don't you? He's that French baby that starts in where Einstein leaves off."

"Oh, you mean Chat-toy-bry-yand."

"That's what I said, only I pronounced it with a French instead of a Hibernian accent. Wasn't I an ace to get an interview with that bozo?"

"You were lucky, that's all. Quit your bragging and give me the story."

"But that isn't all. There were two other noted astronomers there. None of them had heard about the Purple Monsters When I told them about the beasts and showed them the picture, they started a merry argument. I sat on the side lines and took it all in. Now listen, punk, be sure and get this straight, will you? The names of the other two babies are——"

Then followed what the city editor would have designated as "blah, blah, blah."

In the eighth extra of the *Express*, this story, gathered by Garff and written by Murphy, appeared.

CHATEAUBRIAND SAYS MONSTERS ARE FROM GANYMEDE

Eminent French Savant Picks Jupiter's Moon As the Home of Purple Perils

American Astronomers Hold Contrary Views

Emile Chateaubriand, eminent French scientist, told an *Express* reporter this afternoon that the Purple Monsters undoubtedly came from Ganymede, a satellite of the planet Jupiter. It will be recalled that Professor Chateaubriand recently made a special trip from Paris to Coolidge, New York, to confer with the astronomers at Mount Beverly Observatory who have been attempting to verify Chateaubriand's new quatrodim theory.

In addition to Doctor Chateaubriand, the *Express* reporter also interviewed Lindsay Tripp Wilson, Sc. D., curator of the Mount Beverly Observatory, and Professor Howard Monro, Ph. D., head of the department of astronomy at Green University. Although the opinions expressed by the two American scientists did not agree with those of Doctor Chateaubriand, they offer some interesting side lights on the question which everybody is asking, namely, "Where did the Purple Monsters come from?"

In support of his contention that the home of the monsters must be Ganymede, Chateaubriand presented some very scholarly and illuminating arguments. With his well known flair for mathematical conceptions, he showed by a series of calculations why he felt sure that the largest of Jupiter's satellite's was the original abode of the monsters.

Chateaubriand started with the size of the monster's eyes. He first ascertained that, except for the thick, shell-like lids, the monsters' optics are similar in appearance and structure to human eyes. From a photograph and from the estimate of an eyewitness he learned that the monsters' eyeballs are between five and six inches wide, or about five times the average width of human eyes. He predicted that the pupils of these eyes would be abnormally small and this agreed with the testimony of the reporter, who had previously seen one of the monsters at close range.

The theory advanced by Chateaubriand is based on the well known principle that the pupil of an animal's eye varies in size in proportion to the amount of light available. The abnormally small size of the pupils of the monsters' eyes in proportion to the area of their eyeballs was interpreted by Chateaubriand as indicating that the visitors from space are accustomed to living in a land where the illumination is much dimmer than on earth and where their pupils would normally have to be larger in order to permit enough light to enter the eye for a clear image.

Chateaubriand estimated that when the monsters were in their natural habitat, the pupils of their eyes would normally be about one inch wide. This would give them about twenty-five times the area of the average human eye-pupil and would permit twenty-five times as much light to enter the interior of their eyeballs. From this he deduced that the home of the Monsters must be a place where the light is approximately one twenty-fifth as bright as it is on earth.

There is only one location in the solar system where this particular light condition prevails, according to Professor Chateaubriand, and that is in the vicinity of the planet Jupiter. Having a mean distance of 484,000,000 miles from the sun, Jupiter is over five times as far away from the source of light as the earth is and since the amount of illumi-

nation varies inversely with the square of the distance from its source, Jupiter receives approximately one twenty-fifth as much light as the earth does.

At such a distance an animal would need eye-pupils that would admit twenty-five times as much light as those of earth animals, in order to see with equal clearness. This ties in with the eye dimensions of the Purple Monsters and offers significant evidence that their original abode was on or near Jupiter.

The possibility that the monsters might have come from Jupiter itself was rejected by Chateaubriand on the grounds that the planet is undoubtedly in a state of intense heat as is indicated by its low specific gravity in comparison with that of the earth. But while it is generally conceded that Jupiter itself is a huge ball of molten material surrounded by an atmosphere of metallic vapors, the conditions on the moons of Jupiter are entirely different from those on the parent planet. There is not only a possibility, but a strong probability, that at least one of these moons is habitable.

Jupiter, the scientist stated, has no less than nine satellites. Five of them are too small to consider, but the other four are large enough to support animal life. The largest of all is Ganymede. Its diameter is approximately 3,600 miles—larger than the planet Mercury. It has about twice the mass of our own moon. Ganymede is big enough to retain an atmosphere similar to that of the earth. While the force of gravitation on this satellite of Jupiter would be less than it is on the earth, it would not be small enough to cause inconvenience to animals such as the Purple Monsters.

Asked if he agreed with the statements made by Chateaubriand, Curator Wilson of the Mount Beverly Observatory declared that, although he held the theories of the eminent French scientist in the highest regard, he could not endorse his assumption that the Purple Monsters came from Ganymede.

There is only one place in the Solar System where they could have originated, according to Wilson, and that is the planet Mars. Pointing out that the activities of the monsters seemed to indicate their adaptability to earthly surroundings, Wilson declared that this was strong evidence that they came from a planet on which the conditions of temperature, atmosphere and gravitation most closely resemble those of the earth. The only member of the Solar System of which this can positively be said is the planet Mars.

Professor Monro declined to make any definite statement, but casual remarks made by him during the interview indicated that he was inclined to side with his American colleague. He voiced an objection to Chateaubriand's theory, pointing out what he considered to be a serious fallacy. Since Ganymede receives only one twenty-fifth as much light as the earth does, it also receives only a corresponding amount of heat from the sun, Monro asserted. This would mean that the climate of Ganymede would be intensely frigid. Water could exist only in the form of ice, and air only in the form of a solid.

Assuming the possibility of life under such conditions, it would have to be life that is entirely different from what we know on earth. A creature that could live on Ganymede would be consumed by the heat on earth, Monro affirmed.

To this seeming flaw in his theory Chateaubriand had a ready response. It does not follow, he declared, that the paucity of solar heat on Ganymede makes it a frozen waste. Repeating his former statement that Jupiter is unquestionably in a state of intense heat, he showed that this planet must furnish an ample supply of heat to its largest satellite, which is close enough to it to benefit from its warmth.

The *Express* presents the opinions of these prominent authorities in the hope that they will give rise to further discussion on the part of other scientists.

The Monsters Capture Joyzelle

GARFF celebrated his success by imbibing moderately and discreetly in the bibulous ware of an uptown speakeasy. It was nearly three o'clock when he sauntered cockily into the city editor's office. If he was expecting to be greeted by a brass band and a sextette of Follies Beauties bearing floral offerings, he was sadly disappointed.

"Where in Ganymede have you been!" his Chief exploded.

"I see you've read my story," Garff said blandly. "Aren't you grateful for adding a new cuss-word to your vocabulary?"

"Cuss-word, hell. I need something stronger than cuss-words for you, you temulent, bibacious, obfuscated, inebriate, you. Here you are, the only man in the plant who can run a helicopter, declaring a holiday on a day like this"

"What have my flying prowesses got to do with the present situation?" Garff wanted to know.

"Just this. I need some more pictures. Of the space flyer, I mean. If possible I'd like to get one or more of the Purple Monsters with it. Every photographer in the joint has tried it but not one of them has been able to get close enough to catch a satisfactory snapshot of the machine. I figure that the best way to get it to pose is to swoop down on it from the air. Here's what I want you to do. Grab Moss and hop off with him in the company's plane. Tell him to shoot the space flyer from at least four different angles. Then locate the monsters and have Moss get a couple of long-shots of them and as many close-ups as you can grab. I'm depending on you to frame the story. You get the slant, don't you? *Express* photographer shoots Monsters from the air, blah, blah, blah. I can allow you forty-five minutes to get the pictures and be back here with the story. Now beat it!"

"I'll do my darndest!" Garff assured him as he strode toward the elevator.

The flying reporter was fortunate enough to arrive at Central Park just as one of the Purple Monsters was returning to the space-ship. As he circled about in order to enable Moss to photograph the ship and its passenger together, the giant paid no more attention to the helicopter than a man would to a gnat buzzing around his head.

Garff was just about to fly off in search of the other two beasts, when he heard a significant sound. It was the synthetic drone of many airplane motors. Glancing

in the direction of the sound he saw an impressive sight. Approaching from the south was a great arrowhead of planes flying in close formation.

Recognizing them as army planes and guessing their mission, Garff threw the helicopter into high speed, pulled back the stick and climbed upward at a steep angle. He was just in time to get out of the line of fire of the battle planes as, with machine guns blazing and sputtering, they swooped down on the monster.

Round and round it the intrepid aces flew, aiming at its eyes, its mouth, its trunk and every opening they could see. The beast let out a roar that sounded like a dozen ocean liners all whistling at once. Then it reached down, grasped the trunk of an enormous elm tree in one hand and jerked the tree out by the roots. Using this as an improvised plane-swatter, it struck again and again at the swarms of flyers.

When the excitement was over, there wasn't a craft in the air with the exception of Garff's helicopter, which was flying just high enough to keep out of range of the elm tree. Spying it, the monster shifted the tree to its trunk and made a vicious swipe at the machine. Yelling to Moss that it was time to bail out, Garff leaped from the cockpit, counted three and pulled the rip cord of his parachute. As the inverted sack of silk snapped open, the reporter looked around for Moss's parachute but could see only the crippled helicopter which, enveloped in flames, was diving earthward.

Glancing downward, Garff was horrified to observe that he was headed straight for the colossal space-ship, beside which the horrible giant stood waiting for him. He nearly fainted with fright, when he felt his feet touch the purple-hued, taloned paw that reached out to catch him. Down fluttered the parachute, completely covering the body of the reporter, as he crouched there on the animal's enormous hand.

Apparently the monster was puzzled and interested by this peculiar creature that dropped from above, supported by this strange white hemisphere of cloth.

Pinching the silken envelope gingerly between two of its claws, it lifted the parachute so that Garff hung dangling in midair. Garff expected every instant to find himself within that cavernous mouth with those horrible teeth crunching on his bones, but nothing of the sort happened.

Instead, the giant twirled the parachute around two or three times in a wide circle and let go of it, sending Garff's body so high up in the air that the sudden increase in altitude made him gasp like a fish out of water. Floating slowly downward, he was caught by that immense paw and flung skyward again. Almost dead from fright and from the effects of the sudden changes of altitude, Garff hung limp and unconscious from the harness of his parachute.

ON recovering consciousness, he found himself inside a strange room. It was like the interior of a cylindrical tower, about twenty feet in diameter. The walls were made of some transparent material resembling glass. Through them Garff was able to distinguish the contours of a spacious, oval-shaped dome, the highest point of which was at least a thousand feet above his head. In the roof was a large circular opening which framed a disk of black, star-spangled sky. Learning thus that night had fallen, the reporter knew that he must have been unconscious for several hours.

Garff raised himself to a sitting position and looked about him. It took him some time to size up his surroundings which were illuminated by a ghostly, lavender glow. All at once the full realization of his predicament came over him. He was imprisoned inside the Purple Monsters' space flyer! And the "room" in which he found himself was nothing but an enormous glass jar, such as a giant might use as a container for pickles or jam. The mouth of this jar was closed by a cap made of some shell-like material, which was pierced by ten or twelve jagged holes.

It became apparent to Garff that he was being saved as a curiosity—probably because of the parachute to which he had been strapped when the monster captured him. Like a boy who has found a strange beetle, the giant had dropped him into an empty jar, covering the opening to prevent his escape and punching holes in the lid to admit air.

Scarcely had Garff reasoned out this amazing explanation of his plight when he heard a noise that sounded like an avalanche. A section of the wall a hundred yards away from him opened outward and one of the monsters entered the flyer. Gazing upward at the preposterous creature which towered above him, Garff saw the lid of the jar come off. The next instant something that struggled and screamed came tumbling down on top of him.

When he recovered from his surprise, he was still further amazed to find that he was holding in his arms the trembling body of a lovely girl, apparently in some stage costume. Her raiment included an expensive pair of multicolored, muslin wings. They were reinforced by a framework of wire which was now bent and crumpled.

So strenuously did the girl kick and strike at him that Garff let go of her and she sat down hard on the bottom of the jar. With eyes blinking, she gazed up at him.

"Say!" she exclaimed. "You're a man, aren't you?"

"I hope so," Garff answered, as he rubbed his cheek where her jeweled fist had struck him. "My name is Walter Garff. I'm a reporter on the *Express*. Who in the dickens are you, anyway?"

"I'm Joyzelle Ekstrom."

"Not the Joyzelle Ekstrom?"

"None other. Joyzella of the Vanities—that's me."

"Of course," Garff said "I should have recognized you immediately—especially with that butterfly costume of yours. Lord knows I've seen you often enough. How did *you* get here?"

"It all happened so quickly—so frightfully—. The curtain had just gone up for the first act. I was right in the midst of my butterfly dance when the whole theater was lifted off its foundations."

"You don't need to tell me who did that," Garff interrupted. "It must have been one of the Purple Monsters."

"Is that what you call them? Never in my life have I seen anything so horrible. That awful beast actually picked up hundreds of people from the audience and ate them alive. How I managed to escape being devoured I don't know."

"I can answer that. It was because of your butterfly costume."

"What difference did that make."

"Those enormous wings of yours made you conspicuous. You were altogether different from the other

human beings in the theater. To the monster you looked like an interesting curiosity—something to be saved and studied or used as a plaything. I'm convinced that I was spared for a similar reason because of my parachute."

Briefly he told her how the monster had caught him and hurled him up into the air. He ended with, "Now that we know all about each other, suppose we try to get out of here."

"Not a bad idea," she agreed. "But how to do it is something else again. Even a fly would have a slippery job trying to climb up these glass walls."

"You said it. And climbing the wall wouldn't do any good unless we can find some way to lift that lid. I'll bet it weighs a ton."

"How about those air holes?" she suggested. "They look big enough to squeeze through."

"No doubt about it. You could make it if you could get up there. Maybe you can reach the cover by standing on my shoulders."

"Don't think it will work," she doubted. "But it seems to be our only chance, so here goes."

She planted one of her small feet on Garff's bent knee, clasped his hands and with a pert "Alley oop!" she clambered nimbly to his shoulders. But even their combined heights did not bring her finger tips within a foot of the lid.

"It's no go," she said disconsolately as she dropped to the floor.

Garff noticed that she was shaking.

"What's the matter?" he asked anxiously. "Still scared?"

"What makes you think so?"

"You're trembling."

"Trembling nothing. I'm shivering. This September Morn costume is not exactly suitable for a chilly October Eve, you know."

"Forgive me," Garff apologized. "Thoughtless of me to let you stand there freezing. Luckily we have plenty of material to make a wrap for you.

He drew his jack-knife and was about to rip the parachute apart when the girl stopped him with: "Better not do that."

"Why not?"

"You may need that parachute again. Suppose one of those monsters takes another notion to toss you up into the stratosphere. Where would you be without your umbrella?"

"Gosh, I never thought of that. If that happens again, my 'chute will come in handy, won't it?"

"Exactly. And for that reason you'd better not cut it up. After all that isn't really necessary. I can use it to keep me warm just as it is." So saying, she folded a section of the parachute and draped it about her body.

A moment later there was a terrific racket and the door of the space flyer swung open. Into the craft tramped the two remaining monsters. Each of them thrust its horrid face close to the jar, and oggled the two strange insects imprisoned within the receptacle.

Uttering a low cry of terror, the girl clung to Garff, pressing her face against his shoulder to shut out the intolerable sight.

"Don't be afraid, Joy," he tried to comfort her. But, despite his efforts to keep a grip on his own emotions, his voice was husky and the hand which stroked her soft hair was trembling with fear.

Both of them expected to be dumped out of the jar, but nothing of the sort happened. After a few anxious minutes, the beasts pulled in their eyes and went away.

For an hour or so the two human beings sat there side by side on the floor of the jar. They talked about the two most interesting things they could think of—themselves and each other. Worn out by her harrowing experiences, Joyzelle finally began to nod. Garff wrapped her up in the voluminous folds of the parachute and laid her tenderly down. Moving as far away from her as the cords attached to his harness would permit, he lay down on the floor and fell asleep.

The Fight in the Space-Ship

GARFF was awakened by something that plumped on top of him, almost knocking his wind out.

"Hye!" he yelled sleepily. "Go easy! Don't play so rough!"

The words were scarcely out of his mouth before he felt himself being lifted. Looking upward he saw one of the purple monsters bending over him. Though its size and general characteristics were the same as those of the giant that had captured him, Garff could detect enough difference in the shape of its face and the conformation of its body to convince him that this was not the same one that claimed him for its own.

It was holding the central part of the parachute between the triangular lips of its trunk. Garff saw Miss Ekstrom lying on the floor of the jar and was very much relieved when she sat up and rubbed her eyes, apparently unharmed. He had just time enough to yell, "Don't worry. I'm O. K. so far. If I can get loose I'll try to rescue you." Then, with a suddenness that made the straps of his harness cut into his flesh, he was jerked out of the jar.

Up, up went that long, sinuous trunk, until its tip was almost touching the vaulted roof of the flyer. Then it let go of the parachute. It did not have time to open and Walter plunged downward as swiftly as if he had no support at all.

Fortunately, the fabric spread out enough to catch the corner of a metal couch. It hung on for one precarious second and then slipped free, dumping the reporter on the floor, somewhat bruised but not injured seriously.

The monster that had originally placed Garff in the jar jumped off the couch on which it had been lying and let out a roar, that made the human beings' eardrums ache. With one of its formidable paws, it pointed to the parachute which lay on the floor in a rumpled heap. Waving its three other hands excitedly and belligerently, it poured forth a torrent of angry phrases.

Snarling and pugnacious, the other beast retorted. Finally the verbal argument was terminated abruptly and the two ponderous monsters flew at each other.

Fascinated by this preposterous spectacle, Garff watched them as they milled about the cabin. He noticed that both of the creatures took special precautions to guard their trunks. Coiling them into tight spirals, they covered them with their two lower arms. From this the reporter came to the conclusion that the Monsters' trunk were the most vulnerable parts of their bodies, and he filed this valuable bit of information in his mind for future reference.

The third Monster was an interested spectator. Like a boy witnessing a fight between two other youngsters,

it yelled and gesticulated and gave advice to the two combatants.

Suddenly Garff realized that, with all three of the monsters thus engaged, he had an ideal opportunity to make his getaway. Inside the space ship there were hundreds of holes and crevasses where he could hide with little risk of being discovered. He could watch his chance and, the next time the door was opened, scurry outside without being observed.

He was just about to unbuckle his parachute when he remembered Joyzelle. Though he knew that any attempt to rescue her would substantially cut down his own chance to escape, he simply couldn't sneak away and leave her.

From his position on the floor he could not see the jar in which the actress was imprisoned; but, after a thorough inspection of the interior of the cabin, he decided that there was only one place where it could be and that was on a metal bench which towered at least two hundred feet above his head. How to get up there was a job for a civil engineer to solve.

But, though Garff was not a technical man, his training as a reporter had made him resourceful. He noticed that the couch was only a short distance from the bench, and also that one of the covers from the bed was trailing on the floor. By grasping the edge of the blanket and pulling himself up hand-over-hand, he thought he could clamber up on top of the bed. This wasn't so easy as it looked, for the blanket was over four inches thick and the distance to be climbed was nearly two hundred feet, but, by a superhuman effort, he managed to accomplish it. He also succeeded in dragging the parachute after him by means of the harness which was still strapped around his body.

BUT when he crawled to the edge of the couch and looked across to the top of the bench, his heart sank. The distance which looked so short from the floor was fully twenty feet. It might as well have been a mile so far as Garff's ability to leap across the gap was concerned.

After studying the situation carefully for several minutes, Garff noticed something projecting above the surface of the bench a short distance from the edge nearest the couch. It looked like the head of an enormous screw or bolt which had worked loose.

That gave Garff an idea.

Sitting down on the huge bed, he took out his knife and cut the cords away from the parachute. By twisting two or three strands together and tieing the ends, he pieced out a long, strong rope. Fashioning a noose in one end of his improvised lariat, he swung it about his head and let it fly. Not being a cowpuncher, he had to try more than a dozen times before he finally succeeded in dropping the noose over the projection. When he drew the rope taut and fastened it to the couch, he still had about ten yards of the cord to spare. This he cut off and wrapped around his waist. Hand over hand, he swung himself across the chasm.

Fortunately the giant which had removed him from the jar had neglected to replace the lid and Garff had no difficulty in tossing one end of the rope through the open stop of the receptacle. Joyzelle slipped the noose under her arms and Garff hauled away until she caught hold of the top of the jar and clambered over the edge, dropping safely into Garff's arms.

"Look!" Joyzelle exclaimed, pointing up at the skylight.

High overhead—so high that it looked no bigger than a cigar—was a dirigible which Garff recognized as the dirigible *Akron*.

"It's a blimp!" Miss Ekstrom yelled. "It has come to rescue us!"

"Rescue us nothing!" Garff muttered. "More likely it has come to blow us to smithereens!"

The words were scarcely out of his mouth before he saw a tiny speck separate itself from the Akron and come hurtling downward. With appalling swiftness the bomb grew bigger and bigger until it looked as large as a watermelon.

Then the miracle happened.

As if deflected by some invisible barrier, the huge missile swerved to one side, exploding with a terrific roar at least five blocks away. The monsters, who up to that time had been absorbed in the fight, ceased hostilities abruptly and rushed to the door. Flinging it open they piled outside.

"Come on, Joy," Garff shouted. "Now is our chance to make our getaway."

At the edge of the bench he paused.

"I guess the only way we can make it is by going hand over hand along that rope," he said. "Do you think you can do it?"

"You made it didn't you?"

"Of course."

"Then don't worry about me. With the training I've had in acrobatic dancing, I ought to be able to take care of poor little me."

Unfastening the unwieldly wings from her back, she grasped the rope and propelled herself across the gap with long, graceful swings.

Less gracefully, but with more speed, Garff followed her.

He had scarcely set foot on the couch before the three monsters came tramping back into the spaceship.

"Quick, Joy," he whispered. "Slide under this blanket!"

Without being observed by the giants, they both hid beneath the covers of the bed. Garff heard noises which told him that the door-fastenings were being clamped in place. Then, without further warning, the bed in which he and Joyzelle were concealed was tilted up on its hinges and hooked against the wall, sending them sliding down to the lower edge of it.

Garff crawled to the end of the couch and peered through the crack. Without being seen himself, he could observe everything that went on at the control board of the ship only a few yards away.

The monster which had wrecked the Empworth Building seemed to be the pilot. For convenience, Garff christened him "Monster A," giving the name of "Monster B" to the one which had swatted his helicopter, and Monster C to the giant which had taken him out of the jar.

Keeping a close watch on the movements of the beasts, who were within his range of vision, Garff tried to figure out the system they used in navigating the flyer.

"He saw "Monster C" grasp a cable which was stretched across a large ring embedded in the floor just behind the pilot's seat. In the center of the cable was a ball which the giant pushed upward. Some hidden mechanism started to hum. Through the windows in the

after part of the cabin, Garff could see the roofs of the buildings plunging downward, which meant of course that the flyer was shooting straight upward.

When they had reached an altitude of eight or ten thousand feet, Monster C pulled the ball back to its original position at the center of the hoop and the craft hung motionless for an instant. Then Monster A pushed against something that looked like a bulb and the flyer started to move forward. The steering was done by means of a sphere about a hundred feet in diameter. By watching Monster A, as he operated the ship, Garff learned that the steering ball worked on much the same principal as a joy stick.

"Did you see what happened?" he whispered. "We are on our way."

"Where are we bound for?" Joyzelle wanted to know.

"Search me. At first I thought we were headed for Mars or Jupiter, but now it looks as if you are going west, young lady."

Hunting the Monsters

FOR an hour or two the flyer hummed onward. Walter and Joyzelle improved this uneventful period by improvising a kimono-like garment for the girl from a portion of the parachute. When this was completed, Garff crawled to his observation post and peered out. He was astonished to see an immense body of water looming up directly ahead of the ship. It was the Pacific Ocean.

Monster C had taken its position at the mechanism for regulating the ship's altitude. It pulled the cable and the earth leaped swiftly upward. When it looked as if a crash was imminent, it restored the control to the neutral position and the flyer started to soar slowly around in a great curve, about a thousand feet above the ground.

It was rather singular that the spot upon which the monsters set down their craft this time happened to be an airport. It was Clover Field, located on the south-east border of Santa Monica, California. The field was not large enough to accommodate the colossal ship, however, and the after part of it overlapped on the grounds of the Municipal Golf Course.

"Now is our chance to get out of this," Garff whispered to his companion.

But getting out was by no means a simple matter. First they had to find some way to reach the floor, which was over a hundred and fifty feet below them. the rope which had been used to haul Joyzelle out of the jar was not long enough to reach even a fifth of the distance.

By applying his characteristic resourcefulness, Garff solved the problem in an ingenious way. At the head of the bed he found a pillow. It was altogether too large even for both of them together to budge, but Garff had no difficulty in ripping a large slit in the cover with his knife, exposing coarse, straw-like stuffing.

He set Joyzelle to work pulling the material out of the pillow while he carried great armfuls of it to the crack between the bed and the wall, pushing the straw through the opening so that it fell on the floor. When he had piled up a heap that looked like a full-fledged haystack, he said in a low tone, "I'll jump first, to make sure it's safe. If I land without busting my neck, you come after me."

"O. K. Walt," she replied, pressing his hand. "Happy landing!"

Walter landed safely and Joy came tumbling after. They slid to the floor just in time to see the heels of Monster B disappear through the doorway. Sprinting to the opening they slipped out into the sunshine.

"Stay here a minute," Garff commanded. Then, to the girl's astonishment he ran to the nearby hangar, jerked a chemical fire extinguisher off the wall and dashed back to the flyer with it.

"What on earth are you going to do with that?" she demanded.

"Watch." He held the large cylinder or metal over his head in such a way that it rested against the edge of the door sill. When the monster shut the door, the fire extinguisher became jammed in the opening, leaving a crack about eighteen inches wide.

"We may want to get back in there again," he explained.

Meanwhile the three monsters were surveying the surrounding scenery, paying no more attention to the two tiny creatures at their feet, than a man would to a couple of ants.

One of them reached out his paw lazily, flipped off the roof of the Ajax Airplane Factory and stuck his trunk inside to see what he could find. If he was looking for human provender he was disappointed. The airport was deserted. Except for Garff and Miss Ekstrom there was not a human being on the premises. Evidently those who belonged there had fled when they saw the space ship coming.

Satisfied that there was no food to be obtained at the landing field, the three monsters separated, striding across the country with enormous steps. One of them went toward Venice, one toward Hollywood and the third toward the business section of Los Angeles.

Scarcely realizing that he was both hungry and thirsty, Garff's first thought was for his newspaper. He found a telephone and called long distance. His city editor was astonished to learn that the reporter was still alive. Naturally he was delighted to get the exclusive story about the famous actress being captured by the giants and rescued by an *Express* reporter. He told Garff to stay in California and to keep on covering the Purple Monster story.

Foraging around in one of the hangars, Garff found some sandwiches and a thermos bottle full of warm coffee, which he appropriated for his breakfast and Joyzelle's.

When they had finished eating, Walter announced, "I'm going back into that space-ship."

"What for?" Joyzelle questioned.

"I believe I can run the darn thing. Of course, it will take a lot of work and tinkering, but I feel sure I can do it. Are you game to help me?"

"Sure I am, if you need me. But I don't get your idea."

"Just think of what a scoop it will be for the *Express*. 'Famous actress and *Express* reporter make away with Purple Monsters' Craft.' Boy! What a story that will make!"

Joyzelle shook her head.

"You reporters are all the same," she said. "All you think about is beating someone else to a sensational story."

"But don't you understand, Joy? That's my job.

You can't blame me for trying to make good, can you? And besides, if you and I can get away with that flyer, we may save the world. It will be much easier to kill those babies after their crate has been taken away."

"Now you're talking, young fellow. That sounds like something worth taking risks for."

"O. K. Let's go."

Before returning to the flyer, Garff made a tour of the factory buildings bordering the field. He selected various articles of equipment, including a long extension ladder, several coils of rope and a few pulleys. Joyzelle crawled inside the space ship and took these articles as he passed them up to her.

For several hours he labored, fastening cords to the various handles and knobs and running them through pulleys in such a way that each of the controls could be operated by pulling the proper ropes. When he had finished, he crawled outside and went to the office where he had found the phone. Miss Ekstrom accompanied him. Garff called the Associated Press office at Los Angeles.

After disclosing his identity he asked, "What's the latest dope about the Purple Monsters?" He harkened a while and then yelled, "WHAT!" Another listening spell. Hanging up the receiver, Garff said to Joyzelle, "What do you know about that? One of the Purple Monsters tipped over a big gasometer over near the corner of La Brea Avenue and Santa Monica Boulevard. Probably thought it was a new kind of building full of human food. I'll bet he got the surprise of his life when a million cubic feet of gas hit him in the snoot."

"Did it kill him?" she wanted to know.

"No such luck. Just put him out temporarily. He's unconscious now, but still breathing. The gas is blowing away and it looks as if the monster will soon come to again. In the meantime, the police are trying to kill him with pistols and machine-guns. They may as well try bean-shooters."

Then, remembering something, he slapped his thigh and exclaimed. "Say! I bet I know how to kill that baby! What a story that will make! So long, Joy! I'm on my way right now!"

"What do you mean, so long?" she demanded. "You're not going to walk out on me now are you?"

"What do you mean?"

"Aren't you going to take me along with you on your Monster hunt?"

"Do you really want to come? It will be pretty risky, you know."

"I'm getting used to risks. And I'm certainly not going to stick around here waiting for those other two brutes to come home!"

"O. K. You're on, sister! But before we leave, we'd better see if we can scare you up some clothes."

In one of the lockers of the hangar they found a pair of breeches, a shirt and a suede jacket, which Joyzelle substituted for the garment fashioned from the parachute fabric. From among the deserted cars parked on the premises, Garff selected a long-hooded, streamlined roadster and away they went.

The Scoop of Scoops

WHEN Garff arrived at the scene of excitement he found the streets blocked in all directions. Attracted by the shooting, a large crowd had collected. He parked the car in the middle of the road and, holding Joyzelle by the hand so that he wouldn't lose her, wormed his way through the mob of milling humanity.

"These folks don't know what they are up against," he panted as he hurried onward. "If that Monster wakes up now with all this gang around him, what a feast he will have."

"Including us?" Joyzelle asked.

"Not if I can beat him to it."

Finally they reached the cordon of policemen and firemen who had roped off a space around the fallen monster. Garff got himself and Joyzelle through the lines by exhibiting an ornate badge bearing the inscription: "Deputy Sheriff."

Several men in uniform, armed with sub-machine guns were blazing away at the giant's head, body and limbs. The sprays of bullets seemed to have no more effect on the heavy armour of the beast than so many grains of dust.

Garff noticed one man in civilian clothes who was shooting at the monster with a large, loud-noised rifle.

"Who is that man?" he asked one of the police officers.

"Don't you know him?" was the reply. "That's John Barton, the famous big-game hunter. He lives right here in Hollywood. Someone sent for him. That's the gun he used in Africa for killing elephants and rhinoceroses."

Garff approached the celebrated Nimrod, touched him on the shoulder and said, "I beg your pardon, Mr. Barton, but I've had some experience hunting Purple Monsters. Possibly I may be of some assistance to you."

"Thanks, old man," said the hunter. "This is a bit out of my line, I must admit. Just what is the proper procedure to use in killing one of these beastly creatures, anyhow?"

"Follow me and I'll show you," Garff replied.

He led the way up three flights of stairs to the roof of a building against which the head of the monster had fallen. Joyzelle, reluctant to let Walter out of her sight, insisted on going along. From their position of vantage on the roof they were almost on the level with the colossal animal's trunk, and only a few yards away from it.

"See if you can put a bullet in the under side of the trunk, right where it joins onto the head," Garff directed.

Barton raised his rifle and took careful aim.

Just as he was about to pull the trigger, the monster stirred. Raising its head, it whipped out its terrible trunk, holding it suspended directly over the heads of the three persons on the roof.

This was too much even for the intrepid Barton. He dropped his rifle and bolted for the stairway.

Had this been Garff's first meeting with a Purple Monster, he would probably have beaten the mighty hunter to the pent-house. But by this time he felt that he was on familiar terms with the creatures and the familiarity had bred contempt. At any rate, he had nerve enough left to pick up the gun, aim it at the trunk which hovered over him and pull the trigger. There was a loud report and the powerful gun recoiled, making the reporter stagger.

Before he could recover himself for a second shot, Joyzelle grabbed his hand and yelled, "Let's get away from here!"

They reached the street just in time to leap clear of the tottering walls of the building which collapsed like a house of cards as the monster thrashed around in its death struggle. In a few seconds it was all over and the beast lay still and lifeless.

A great cheer went up from the throats of thousands of people who had witnessed Garff's nervy deed. But he did not wait to receive the plaudits of the multitude. Mixing unobtrusively with the crowd, he and Joyzelle hurried toward the place where he had left his borrowed car. "Where are you going now, young fellow?" she demanded.

"Back to the airport. I hope there is still time for us to get away with that space-ship."

"I love the way you said 'us,' Walter," she beamed at him.

"Why not, honey? You've stuck by me so far, haven't you?"

"I sure have. And I've loved it. Hope I haven't been in the way."

"In the way? Say, Baby, I'd never have been able to make the grade without you. You are my inspiration."

"Thanks, Walter. But all the same, don't you think you'd better pick up a bunch of cops or aviators or other he-men to help you run off with that space-ship?"

"Cops or aviators nothing!" he exploded. "You must think I'm crazy. With a scoop like this almost in the bag, do you think I am going to let all the Los Angeles papers in on it? Nothing doing! And that reminds me. I've got to phone to New York. Nobody out here knows who killed that Monster. The *Express* will have a chance to print another exclusive story."

Parking in front of a drug store, he put through the long distance call and gave the information to an *Express* rewrite man.

WHEN they reached Clover Field, they found it still deserted. Garff ran the car out on the field, parking it in the shadow of the huge flyer. He and Joyzelle crawled through the crack under the door.

Garff made a final inspection of the contrivances he had rigged up for operating the ponderous controls of the craft. Then he pulled the rope which lifted the altitude control. Like a toy balloon, the great ship shot upward. Desiring to test the device for stopping the upward climb and also for descending, Garff jerked another rope. The flyer stopped rising, hovering motionless about five hundred feet above the ground. When he tried to operate the lifting mechanism again, the rope, which he had attached very hastily, came loose. At that moment, Joyzelle who had been keeping watch through the forward windows, let out a yell, "Look, Walter! The Purple Monster! He's coming right for us!"

Apparently the giant had seen the ship also, for it came bounding toward it with enormous strides. Despite the fact that the flyer was at least five hundred feet above the ground, the monster had to bend over in order to look through the window.

Speechless with fear, Garff and Joyzelle watched as the monster peered at them with its ridiculous eyes.

When the beast saw that neither of his companions was inside the cabin, it grasped the nose of the ship between two of its talonèd paws and started to pull the craft toward the ground.

In a desperate effort to reach the altitude control and operate it by hand, Garff started to climb up the instrument board, clinging to knobs and levers as he clambered upward. His foot rested against a peculiar looking piece of metal which sank under his weight. Then something happened. There was a blinding flash and the ship quivered from nose to stern. Garff fell tumbling to the floor. When he staggered to his feet and looked out, the monster had disappeared. There were many windows in the cabin, facing in all directions, but neither Joyzelle nor Garff could see anything of the giant.

"What do you suppose happened?" Joyzelle asked.

"It looks as if I stepped on a jigger that operates some kind of a weapon that the Purple Monsters use on each other. I imagine it's a sort of destroying ray."

"Then you must have killed the second monster."

"Looks like it. We not only killed him but we also disposed of his remains."

"And now there's only one left."

"That's right. What do you think? Shall we go hunting for him or shall we wait until he comes home."

"I vote for the waiting game. If you try to work that beam in the heart of Los Angeles, you're liable to mess up a lot of buildings and maybe some people, too."

"Guess you're right. Let's wait. And in the meantime, I will fix that control and do a little more practicing."

After considerable maneuvering, he managed to turn the nose of the ship around so it pointed toward Los Angeles. He had hardly accomplished this feat before he saw the last of the Purple Monsters striding toward him from the distant city. This time, Garff didn't allow the giant to get close enough to grasp the ship. With a rope which he had attached for the purpose, he pulled down that queer-looking lever.

The ray caught the beast square in the abdomen. As if it had suddenly been turned to stone, it stopped dead in its tracks. Then it began to quiver, while at the same time its body expanded to many times its former size. Becoming ghostlike and transparent, it finally changed into a huge cloud of swirling vapor and disappeared completely.

"And that is the end of our one, two, three," said Walter as he slapped his hands together as if he were brushing dust off them.

"For which the whole world ought to be thankful, Jack."

"Jack?" Garff yelled. "You must be thinking of one of your other boy friends. Where do you get this Jack stuff, anyway."

"That's what I'm going to call you from now on. Don't you get me? You are my Jack the Giant Killer!"

"Say, Baby! You ought to be a newspaper woman. 'Jack the Giant Killer!' That wouldn't make such a bad headline, what I mean. Which reminds me——"

"Don't tell me," she interrupted him. "See if I can guess. You were about to say that you've got to phone your city editor."

"Right!" said Garff as he set the flyer down and made a dash for the telephone.

When he heard the story of the final destruction of the Purple Monsters, his chief's delight knew no bounds.

"Are you sure that nobody in California knows who you are?" he asked.

"Absolutely!"

"And are you sure that nobody else knows how the last two monsters were killed?"

Nobody but Miss Ekstrom and me. Don't worry about her, Chief. She knows how to keep mum."

"Boy, oh boy!" the city editor yelled. "What a beat! Walt, old kid, this is the scoop of the century, if not of all newspaper history. And by the way, Walt, I have some news for you. On the first of the month I'm being transferred to the Chicago *Record*. I've been asked to name my own successor. The job is yours at two hundred a week to start. Will you take it?"

"Will I? Don't be foolish, Chief. Of course, I will, with many thanks. And, say! Wait a minute, will you? Maybe I can give you another great story—one that will be a bigger scoop even than the killing of the Purple Monsters. Hold the line a minute, will you?"

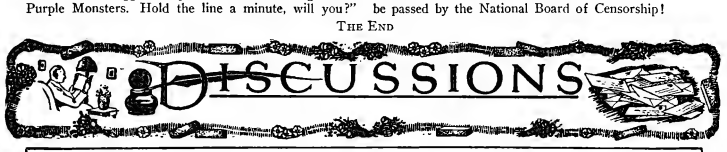
The Chief held the line for one minute, two minutes, seven minutes, while Garff engaged in an animated conversation with Joyzelle.

When Walter finally picked up the receiver again, the editor was raving. "Say, what's the idea?" he stormed. "You have a nerve to ask me to hold the line on a long distance call like this that is costing the firm two seventy-five per minute!"

"Wait till you hear this story and see if it isn't worth it," Garff declared. "Tell your society editor to announce the engagement of Miss Joyzelle Ekstrom to Mr. Walter Jack-the-Giant-Killer Garff!"

What the editor said when he heard that would never be passed by the National Board of Censorship!

THE END



In this department we shall discuss, every month, topics of interest to readers. The editors invite correspondence on all subjects directly or indirectly related to the stories appearing in this magazine. In case a special personal answer is required, a nominal fee of 25c to cover time and postage is required.

INTERESTING CORRESPONDENCE ON THE SUBJECT OF GRAVITY

Editor, AMAZING STORIES:

For a long time I have been a reader of your magazine and derive much pleasure and also real benefit from it.

In the October issue, there was something which was noted with particular interest by me. It was in connection with the theory of gravity and the reference made on the bottom of page 602 to the work referred to by James Mackaye.

Back in 1927, I conceived an idea regarding gravity and regarding energy which I do not think is greatly dissimilar to that referred to in your magazine. Under date of April 6, 1927, I wrote a letter to Professor Compton of Princeton University, Princeton, N. J., and sent him a brief summary of my views. Professor Compton replied to my letter under date of April 8th. I am enclosing herewith copies of all these papers and would be very pleased, indeed, if you would look them over and tell me what you think of them whether or not you print them in some future issue of AMAZING STORIES under the heading of "Discussions."

E. L. Grover,
West Trenton, N. J.

Prof. Karl Compton,
Princeton University,
Princeton, N. J.

Dear Professor Compton:

Last night, in The Trenton Times, I read an interesting item which included your name. It seemed a sort of introduction to you.

For some time, I have been wanting to submit, to someone like yourself, a line of thought which I have, rather crudely, transferred to writing, and I am taking the liberty of enclosing it for your perusal.

I realize it is rather bold for a layman, even if somewhat of a student, and thinker, to wade out into the sea of physics, and my thoughts may he absolutely absurd to the scientific mind. On the other hand, there may be one chance in a million that I have guessed at something heretofore not thought of.

I would appreciate your comments.

Very truly yours,
(Signed) Edward L. Grover.

WHAT IS GRAVITY AND WHAT IS THE REAL SOURCE OF ENERGY?

A Possible Explanation by E. L. Grover

Instead of gravity being a *pull* or inherent attraction between all bodies, may it not be a *pressure* by the universal ether, *pushing* all bodies toward each other, including the suns in outer space and the electrons in the atom?

Instead of there being some inherent energy in electrons, may not their activity result from being pushed together by the ether and rebounding as do billiard balls when striking each other?

Of course, the question can be asked, "What causes pressure or by the ether?—but there is always something beyond to every door opened by science. Some problems are only answered by leading to others.

While we know comparatively little about the ether, we can surmise it fills all space, is perfectly elastic and has other properties comparable to the atmosphere and liquids in general, and that it is sprinkled with material bodies, including gigantic suns and free electrons.

Between any two bodies, say the sun and earth, or the earth and moon, or an airplane and the earth, or between electrons, the volume of ether is small, indeed, compared with that beyond. Hence, may not this greater volume of ether on the opposite portions of two facing bodies force or push them toward each other? Is this not a more natural surmise than that each body contains a mysterious attractive force called gravity?

And is there any real difference between what we call gravity and atomic or electronic energy?

May not electrons, like the ether, be perfectly elastic? If pushed together by the ether, would they not rebound? Might not such perpetual clashing from pressure and rebounding from elasticity be the original source of all energy? Would such not seem a simpler thing to comprehend than that the electron itself is a self-contained source of seeming energy?

And, if, in keeping with the present electronic theory, it is necessary to consider the electron as a negative or repulsive elemental particle and that there must be a positive or attractive one, may we not conceive of a mate to the electron which is absolutely non-elastic and from which the attracted electrons do not rebound as from each other? And would not such a hypothesis help to simplify our understanding of so-called chemical affinity or the building up of atoms into the different elements?

Is there any known law of physics or of other natural science, which would be disturbed by these guesses of mine, if such guesses were found tenable? I call them "guesses of mine" because I have never read or heard of such being advanced heretofore.

(copy)
PALMER PHYSICAL LABORATORY
Princeton University,
Princeton, N. J.
April 8, 1927.

Mr. E. L. Grover,
P. O. Box 584,
Trenton, N. J.

Dear Mr. Grover:

I have read with interest your notes on the subject of gravity and the source of energy. I believe that there have been suggestions along practically the same lines as those which you give, but which have not been very strongly adhered to because they have not been as fruitful in stimulating new discoveries or in correlating a wide range of phenomena, as the views which are now generally held. This is of course a field in which no one dares be very dogmatic. I am unable to give you any opinion which would be of much value.

Very truly yours,
(Signed) K. T. Compton.

(We take great pleasure in publishing this correspondent's letter. It is fair to say gravity is one of the most difficult subjects in science; we may even say that for years it has been one of the world's puzzles. How the sun adding its gravity to that of the planets should hold them all in their elliptical orbits reinforced by the gravity of the planets themselves, how the special gravity of the earth pulls things toward its center and holds its atmosphere surrounded like a blanket, is a profound mystery. The theorizing of the scientific world about natural phenomena leads to most important discoveries that whatever view we may take on such subjects as the constitution of an atom, where a new theory is liable to pop up at any time, yet these theories do bring a practical result. We must have a respect for them from the standpoint of their practical value.—EDITOR.)

THE LEMURIAN DOCUMENTS

Editor, AMAZING STORIES:

In charge of plagiarism—Richard Rush Murray, amateur critic, versus A. H. Johnson, author. Many a great writer (and inventor) has been accused of this so-called "crime" in the past; many more will be so accused in the future. How often has a similarity in the trend of mind of authors of both fiction and literature, not to mention play writing, led to this often uncalled-for accusation? Furthermore, the scarcest of human traits is originality. Has R. R. M. ever taken full cognizance of this most universal axiom?

As a student of ancient religions and civilizations, (academically) the "Lumurian Documents" versions of well known mythological tales are very interesting to me. There are literally thousands of these tales that may be given an apparent "fact foundation" by such treatment. This could be done in far more than apparent in the like rendering of a few of Marco Polo's tales of his travels in Cathay and Tartary. China has produced more discoveries and inventions than the compass and gunpowder. It is deplorable from the scientific point of view, that only the Nordic races have the peculiar enterprise to make a discovery permanent to posterity by exploitation and general use. And yet—even the centers of world civilization might have been elsewhere than at

(*Continued from page* 472)

In the Realm of Books

"Three Go Back"

"Three Go Back," by J. Leslie Mitchell. Published by Bobbs-Merrill Company, Indianapolis, Ind. 303 pages. $2.00.

THERE are any number of ways in scientific fiction, how to transport the heroes of a story into the distant future or the dim past. Some of the more mechanically inclined authors invent vehicles, of which they give fairly plausible descriptions *à la* Wells' "Time Machine," etc. Other authors who have no flair for machinery just blame time, and state that in some inexplicable manner "time slipped a cog," or a whole gear, or that something went wrong with the time-stream, so that the heroes find themselves either in the past or the future as demanded by the requirements of the story.

Of course, this "slipping of the time" system is the easiest way out for the author and if the story is interesting *"per se"* everybody is satisfied. "Three Go Back" is a very well written story, interesting throughout and fairly plausible as well.

The three which go back are Clair, of Cockney descent, a writer of risqué fiction, Sir John a manufacturer of munitions and war material and Keith, a militant pacifist. They are traveling on a transoceanic plane, and after witnessing a submarine 'quake, they see a vast stretch of land appear, replacing the familiar Atlantic Ocean. Another peculiar phenomenon happens: Radio communication is completely destroyed. It turns frightfully cold and the plane proceeds to break up, crashes against a mountainside and the three survivors find themselves in bare feet and flimsy pajamas "up against it" for fair. They are in a terrible land, they are cold and hungry, have a narrow escape from a sabre-toothed tiger and Keith deduces, with pure logic, that somehow they have been transported back about 25,000 years and that they are now on the continent "Atlantis" —not the Atlantis of fabled pre-historic civilization, but the homeland of the Cro-Magnards, our remote ancestors. Just when the trio is about to give in to despair they meet a tribe of the Cro's beautifully built, totally nude but kindly savages, who receive them as friends. The Cro's have evolved up to the use of fire, but have not as yet discovered the art of cooking in pots.

Sir John dies, shortly after the three have become members of the tribe. At the annual choosing of mates, Clair is selected by Aerbes, the chief hunter of the tribe. A series of great catastrophes—earthquakes followed by floods, partial disappearance of the land—compel the tribes to migrate southward. During this trek, Clair gets lost, but is found by Keith, and they come together. They discover that they are in love with one another. After a serious encounter with Neanderthal men, the two experience another "slip of time" and find themselves back in the age they left. They discover that they are on the Azores and, to avoid explanations, they tell their rescuers that they are man and wife and that they had been shipwrecked.

The purpose of this book seems to be to combat the idea that civilization has brutalized humanity, and that our primitive ancestors were free, kindly and happy.

Mr. Mitchell appears to be a very militant pacifist, promising a bomb to every manufacturer of armaments who makes money by trading in blood and human agony.

Whatever sentiments prompted Mr. Mitchell to write this book, and whatever the purpose, the book makes good reading. It is first class fantastic adventure story.—C. A. B.

Not So Good!

"Jungle Girl," by Edgar Rice Burroughs. Published by E. R. Burroughs, Inc., Tarzana, California.

SOMEHOW this book reminded me strongly of the old story of the parlor adventurer, who, after some of his tales have been discredited, inquires of his sceptic audience: "Has any of you ever been in Patagonia?" and after hearing a general "No" says relievedly: "Well, then I can talk freely." As few of us have been in Cambodia, Mr. Burroughs can talk very freely indeed.

The book describes the adventures of one Gordon King, who gets lost in the jungles of Cambodia. Just before he succumbs to a bad fever, he kills a tiger who was about to spring on the high priest of Siva. The priest orders a run-away slave couple to nurse Gordon back to health. After recovery, he becomes a mighty hunter *à la* Tarzan; kills tigers with a well thrown spear, rescues a fugitive dancing girl, which also means the end of one more tiger, and promptly falls in love with the girl. The dancing girl has run away from the king on account of his being a leper, but later on, when Gordon has joined the ranks of the king's army, the king is cured by Gordon, because the king's leprosy is only a bad case of dermatitis, superinduced by an exclusive diet of mushrooms. Now Gordon sits on top of the world, the grateful king having made him high main gazibo of his kingdom.

The dancing girl, who in reality is the crown princess of a neighboring jungle kingdom, and who ran away to avoid the attention of an unwelcome suitor, still proves troublesome. The two jungle kings settle their differences through a battle, and Gordon finally vanquishes the villain, marries the princess and himself becomes a jungle king.

In the opinion of this critic, the book is a juvenile, suitable for children up to 10 years.—C. A. B.

The Anti-War Books

All the nations of the world, whether or not they participated in the "World War," have been and are penalized for the crimes of the politicians who brought the war about. Two books showing the fallacy of wars have recently been published in Germany and both have been translated into English. The first is: "War Again Tomorrow" by Ludwig Bauer, translated by W. H. Carter and published by Duffield & Green. $2.00.

The second book is a novel: *"Death Rattle,"* by Hans Gobsch, translated by Ian F. D. Morrow published by Little, Brown & Company, Boston, $2.00.

"WAR Again Tomorrow:" It seems that the author's idea is, that if humanity does not wake up, as it were, it will find itself engulfed in a real world-wide war, which will throw all the nations of the world back into a state of complete savagery, and in order to prevent such a catastrophe he suggests the formation of a super-super League of States Extraordinary, a sort of ultra-exalted international police force, armed to the teeth, vested with extraordinary powers. This super league only is armed, and it is supposed to keep all the other nations in check and prevent any serious complications and difficulties by merely striking a threatening attitude.

What a chance for the crooked politicians of the world!—C. A. B.

"DEATH RATTLE:" This book is somewhat out of the ordinary. It is a serious book, and the most pleasing and promising thing about it is the author's conviction that the people, as such, do not want war at all. The book shows that a small frontier argument can lead to a conflict drawing nation after nation into wholesale destruction and murder, just as the murdering of an Austrian duke, of which a thousand are not worth one research scientist, led to the war of 1914-18.

The chief figure in "Death Rattle" is one Leon Brandt, a French statesman of German extraction, whose aim in life is the welding of all working classes of all European nations into one magnificent organization, powerful enough to force its will and desires upon the legislative bodies in order to prevent war.

However, Brandt is not able to abate the war fever generated in France, Italy, Jugoslavia and Albania, and is finally murdered during a Communistic riot. France and Italy are destroying one another by means of aerial gas attacks. Red Russia marches into Poland and Germany and European civilization ceases to exist.

Both books will strongly appeal to all those opposed to war, and to those who are interested in the workings of international politics.—C. A. B.

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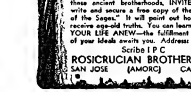

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present, and another race have been the leader. Would we think that deplorable, instead? Quien sabe?

The use of imagination with respect to the possible developments of electronic engineering gives promise of better stories than any yet published; and, besides the more greatest credit, also may give rise to earlier inventions than would otherwise have been possible to some without the stimulus of another's imagination. Your stories may do just that.

J. Lewis Burtt, in Lemurian Document No. 2 —March issues—has shown more logical thinking with respect to the problem of invisibility (a possible development of electronics), than any other author on this subject. Refraction of light has been the almost universal method of gaining this result, but how many have appeared to realize the inability of light rays reaching the operator? How can he see? Allow me to congratulate J. L. B. on his treatment of this "insignificant" phase of the problem! Let some experiment, in this subject take his suggestion to heart. The successful development is just around the corner. An ever increasing astonishment at the lack of discernment displayed has been my personal reaction in reading stories by other authors on "invisibility."

Nevertheless, the fact remains, I like your stories very much.

(To those of us who have studied the metamorphoses of Ovid, the great Roman poet, the Lemurian Documents make most amusing reading and we eagerly look to see that you appreciate them. One of our well known authors was quite upset by the idea that he had never thought of writing such a story himself and now, of course, it is too late. We have been impressed by the cleverness with which the Lemurian Documents bring out the old-fashioned stories as given in Ovid's verses. We were rather familiar with them in boyhood days and it is pleasant to renew the acquaintance with them in AMAZING STORIES. They had proved to be very popular and very much liked and there is certainly no harm in having a classic story from a modern viewpoint, which is exactly what is done in these documents.—EDITOR.)

A NICE LETTER FROM THE IRISH FREE STATE—AN IRISHMAN WIN OBJECTS TO THE LOVE MOTIF IN SCIENCE FICTION STORIES

Editor, AMAZING STORIES:

Some time ago, I had the pleasure to see a letter of mine in "Discussions," and as the result of another reader of AMAZING STORIES seeing that letter, I now enjoy, through his generosity, each succeeding issue of regular reading.

First, I must say that although AMAZING STORIES has not, in my opinion, improved within the last six months or so, it has held a very excellent standard with consummate steadiness, and a certain definite "line of action" which refuses to be warped by the many hysterical comments which from time to time appear in "Discussions."

Second, am I right in stating that there is an insidious invasion of sob-stuff, love-interest *plus,* or what you like, into the matter-of-fact pages of AMAZING STORIES—an invasion never before seen in its strength? Is this a determined attempt to ruin your great magazine by some person or persons unknown? Let us think this rather than decide that the Editor is gone soft at last!

Thirdly, please avoid stories of the type of "Seven Sunstrokes." They are not amazing; good stuff for ordinary fiction magazines, maybe, but quite out of place in AMAZING STORIES. Why, they don't even approach the standard of "Surprising" not to mind "Amazing"!

There are two other Scientifiction magazines which a friend in America sends to me. Now here's a funny thing: I like these two magazines as much as AMAZING STORIES, but at the same time, I have a good *respect for* AMAZING STORIES which I feel not at all for the others. My AMAZING STORIES is never thrown away carelessly, but kept as well as numerous loans of it allow; for there are a great many boys over here who are overjoyed to have the loan of it.

I have beside me the April issue, 1932, of course. Having read the contents with the usual pleasure, I here venture to place the stories in the order of my liking:

1. "The Lost Machine." A beautiful little story, most convincingly written, and presenting plenty of sentiment without its being unduly noticed. Is there a sequel?

2. "Cosmic Steeple-Chase." A good story, somewhat "Jules Verne"-eque, though unacceptable in parts. Who could imagine Jameson to be such a fool as to allow Bellast such unbelievable latitude after what he had just done?

3. "Mechanocracy." Good, though not up to the Brewer level.

4. "Troyana." Great stuff here, though marred by love-interest *plus.* Of course we are going to hear more about Nankivell and Company.

5. "Seven Sunstrokes." Interesting detective story, but a misfit in AMAZING STORIES.

Fitzgerald P. Grattan,
11 Frankfield Terrace,
Summerhill So.,
Cork, Irish Free State.

(We have just read a letter in which the writer expresses his appreciation for a certain amount of the very thing you object to. After all we live in a world with two sexes, so why should not the fair sex, as they are called, be given some place. He certainly finds less love in our magazines than in other magazines. It is a pretty hard requirement for an author to exclude the female portion of humanity from the stories and this especially in the present day when women are distinguishing themselves in science; and Cork is the last city from which we should expect ladies to be treated as a joke. Never, it is very pleasing to the Editors to get letters from other countries and we hope that this will not be your last communication. We must remember that "Seven Sunstrokes" was more than a detective story as it involved the chemistry of the various compound with which the criminal employed for his work.—EDITOR.)

A LETTER FROM ENGLAND FROM AN APPRECIATIVE READER

Editor, AMAZING STORIES:

I have been going to write you for a long time regarding your or our magazine. I am going to compliment (not criticize) you on the class of stories you hand out. We do not get any good magazines over this part of the globe.

"Pure tripe, all of them, sad but true."

The only thing we can do about it is to buy them when and where we can, so you can guess that, by the time we get them, they are ancient.

Here are some I consider the best I've read: "Spacehounds of IPC." Damn good.

"The Skylark of Space," etc. Damn good. Smith knows how to turn them out.

Next comes "Drums of Tapajos," by Capt. Meek, also "Submicroscopic." Next, "Universe Wreckers," Hamilton. All these, bar "Submicroscopic," were serials.

One of the best complete "Interplanetary" stories I have read was "Power Planet." Leinster is a genius.

Others—"Icy War," "The Cerebral Library," by Robert Fair.

"Too Many Boards," "Ambassador from Mars," "Tanks Under the Sea," by H. Vincent. The last named has spoiled the last paragraph *re* Adventurous Yankees are like that.

Does Harl think Yankees are the only Strong, Silent Men?

Well, Editor, I have had my say, so will ring off. Every success to AMAZING STORIES is the wish of

Frank E. Whitman,
9 Surrey Street,
Brighton, Sussex, England.

(There should be no trouble in getting the magazine in good time through our London agent. By far the best way, however, is to subscribe and then it will come to you regularly. It is evident from your comments that you are a thoughtful reader and we are always grateful for such letters as yours, whether complimentary or not. We shall always be glad to hear from you and we take pleasure in printing this communication. Dr. Smith has won great praise for his work, but turns out comparatively little in a year. His letters published in the "Discussions" columns are as good reading as his stories. Harl Vincent is quite an extensive writer of fiction and we think you should receive his remark about the Yankees. He is, after all, an American, in America, and he probably just didn't think about anybody outside America.—EDITOR.)

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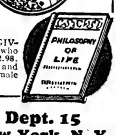

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SOME REMARKS ON OUR ILLUSTRATIONS AND ON OUR WELL-KNOWN AUTHORS OF THE PAST AND OF THE PRESENT

Editor, AMAZING STORIES:

I have not been able to write your "Discussions" column for a long time, chiefly because I have not had the time, and secondly, because I have missed about a half-dozen issues of your magazine. However, I have just completed the greater part of the January, 1932, issue and would like to say a word. Firstly, I wish to compliment Mr. Morey on the enormous improvement he has made, both in cover and in pen-and-ink drawings. Formerly, I didn't care much for Mr. Morey's work, but now I recognize in him a very competent artist.

Secondly, I sincerely wish that you would give us some more work by Artist Muller. His solo drawing was one of the best scientifiction illustrations I have ever seen. You yourself said that he was a fine artist. At least a half-dozen readers have expressed their desire to have him back. I have seen about one reader who has not wished his work. I would rather have him than almost any dozen.

Thirdly, I wish to say that, in my opinion, you have in Paul H. Lovering and Charles R. Tanner artists of sterling worth. I hope to see more of them.

And was I glad to see Captain Meek back with "Wolfram"! Well done, Capt. 101! But, Mr. Editor (I know this doesn't belong in this paragraph, but I'M Scotch, when it comes to paper) please, please, whatever you do, don't change the form of lettering on your title and don't take away the tombstone of "le Bon Jules"! They are the ornaments of a magazine that to me seemed infinitely greater than your present one. In *no* "stf" magazine will you find such good verse and fantasy as appeared in the AMAZING STORIES of old (1926-1928).

And now, Dr. Sloane, will you answer a few questions?

(1) Please explain to me the exact nature of a "poly-sulphide." I don't understand the animal at all.

(2) I am pretty sure that the answer to this one is "no," but I want to check up before I try it. Will an alcohol lamp give a flame hot enough to bend glass tubing?

(3) I have a small microscope that is supposed to be 300 power. I paid $12.50 for it. Do you think that it is as powerful as this and is there any way of telling the power?

I am 16 years old, a junior in high school, an art student, and amateur chemist, microscopist, biologist, physical culturist, and author. But—I'm not an amateur in science fiction reading.

Robert A. Ward,
544 E. 38th Street,
Baltimore, Maryland.

(The writer of this letter feels exactly as we do, that Mr. Morey is getting better and better work. He takes the greatest interest in it. Mr. Muller's work excited so much unfavorable comment that we felt that we had to stick to what may be called a more prosaic treatment of our stories and we sacrificed our opinion to what appeared to be the opinion of most of our readers who seemed not to like modernistic treatment. For several reasons, we do not think it wise to try him again. Just now, there are many authors of sterling worth and we feel that our magazine is going to do extremely good work, if we may so express it, in the next few months. We are satisfied that if anyone will compare the first two or three issues of AMAZING STORIES with the present issue and will do that with an entirely disinterested mind, he will see that in all respects the magazine has improved and has developed in a most interesting manner.

Now for your questions. The prefix poly means "more" or "many"; thus iron may be a protocelphide and a bicelphide. The first contains an atom of iron in combination with an atom of sulphur to make up the molecule—formula FeS. The bicelphide, which is a polyphide of course, has a formula FeS_2 as there are more than one atom of sulphur in it. Numerous other examples of polyphides could be given, but we think the above answers your question. An alcohol lamp will give heat enough to bend small glass tubing if the tubing in question is fusible glass—some glass will not yield to the flame. We think that 300 diameters is pretty high magnification for such a microscope as you indicate, even though "three hundred power" may indicate the area or surface magnification, which would give less than 20 linear powers of magnification. If you put some object under your microscope, such as a line of fine printing, and would look at it with one eye through the microscope and with the other eye at the protruding part of the paper, you can get a rough idea of its magnification by comparing the one with the other. We hope we have answered you satisfactorily. Do not hesitate to write again if what we say does not cover your requirements. We will always be pleased to hear from you.—EDITOR.)

THE EQUALITY OF AMAZING STORIES IS DISCUSSED BY A SEVERE CRITIC

Editor, AMAZING STORIES:

I have every edition of AMAZING STORIES printed since its inauguration and I can say truthfully that comparing the first edition with the May edition, I can see no radical improvement.

The best thing that ever happened to our magazine was to dispense with the services of the inimitable Paul, who really is hard to imitate. Paul is no doubt a fine fellow, but his writings have to be read to be famous about all of them. Morey is certainly a find, and his drawings in the May and April issues was really fine. Wesso is O. K. in the Spring.

That was certainly an interesting letter that appeared in the May Discussions column, from a man in Sayville that did not disclose his address and who explained the etymology of that enigma "wolfram." He seems to be a student of ancient history and could teach even the editors of A. S. something. I agree with him when he praises the Lemurian Documents. The readers appreciate something like what he writes once in a while.

A changing magazine is usually a progressive magazine, and the May issue was mediocre except for Morey's pictures. It was an atavism, a throw-back to the prosperity days of 1926-1927, when everybody had to write to waste. I sure do hate to say it, but A. S. is actually starting to get dry! Some of the imitations are actually beginning to excel the one and only fantastic *story* magazine. I do not know what the circulation of A. S. is, but I would appreciate being told what it is. I don't think the said circulation is growing by leaps and bounds.

You have got to do something to pep it up. Now is the psychological time to run a story like "Skylark of Space" and "Skylark Three" and "Spacehounds of IPC." Of course, everybody knows that it is very easy to procure such stories as these(?).

You should use better paper than the pulp you are using. I prefer the shiny paper, the kind that hurts your eyes and makes you get glasses. You see, that would make the mag. thinner and therefore I could bind them with ease.

Readers persist in calling the stories in your mag. "scientifiction" and "science" stories. I object. Most of the stories are good and immensely interesting, but the majority are devoid of the slightest bit of science. Yes, verily.

Does anybody know what time is? If they do, I wish they would tell me, because I don't know what it is. Many digest their stories as it is my belief that time does not exist. It is not a dimension as is length, width or height, but it is a figment of the imagination. So far as I can make it out, time is dependent on a lot of things in order to make itself an illusion. I think that there is no such time is the only reason that I can see that time exists to us. Time. Yes, so far as I can see it, Einstein is wrestling with a lot of nothingness when he tackles time. You can't put time in a bottle and study it, so people like me think it does not exist.

Time is something which I think should not have been invented as it gives me headaches, when I think about it. Or, and it makes me buy Bromo-Seltzer, which I hate to do, as I hear the voice of the announcer who crooningly advertises it on the radio.

Elmer Armstrong Canevin,
5729 Beaumont Ave.,
Philadelphia, Pa.

(We accept your criticism, print it, and shall hope that it will bring out letters from others. We think now of anything, except the depression, perhaps, that continues to grow by leaps and bounds just now? We think we do well to continue to grow—even if very slowly. Your discussion on time is quite interesting. As far as the science in the stories is concerned, I think that most questioners, which has its answers in the stories of the magazines, shows that they evidently do contain some science. Perhaps you are getting your magazines mixed. —EDITOR.)

THE ALTERNATING CURRENTS IN AN OPEN FIELD COIL

Editor, AMAZING STORIES:

I am recalling to your mind what is likely to be entirely forgotten by you. That I visited you at your office May 5th last year.

On second thought, perhaps you do remember it, for I asked a question that I guess had not been asked before—the why of the "—11" exponent of "100" when used as a constant in determining the development of "M" in the process of getting the "practical system from the C.G.S. or absolute system."

The purpose of this present annoyance is to ask if anyone has ever tried to excite a field with an *ALTERNATING CURRENT*. If so what—what result?

It would seem to me that—if I understand the matter correctly—every dynamo-generated current is, *at the instant of its generation*, an alternating current, although it may be straightened out before it leaves the machine.

But this is by virtue of the fact that when a line of force—a maxwell?—cuts the magnetic flux at the north pole of a machine, it sends a current (say) east out of the power house. Now, if it passed a south pole with a current going in the opposite direction around the magnet, would it, so to speak, "suck" a current from the east instead of sending one east?

Frank W. Dusey,
Oreston,
Iowa.

(You of course understand that an alternating current can be reduced in intensity and can be brought down almost to zero by being connected in series with a coil of wire with a soft iron core. Such a coil is commonly called a choke coil. The choke coil, connected to an alternating current, represents the exciting of a field. As used to reduce by means of E.M.F., the intensity of alternating currents, exactly as a stop cock or valve is used to reduce the flow of water through a pipe.—EDITOR.)

AN ASSORTMENT OF BRICKBATS PROJECTED AGAINST AMAZING STORIES

Editor, AMAZING STORIES:

In the January "Discussions" I read a letter by Mr. Forrest Ackerman. Not only did he hit the nail squarely on the head—but drove the nail into the hilt. He is exactly right. And I want to add my piece—no, *demand*—to his.

We want Muller. When I say we, I mean *the majority*. There were three letters in the January issue which made pleas for more of Muller's work; not to mention those in previous issues. But how many did you see which condemn his work? That's right—not a one. If that does-n't convince you, then print a voting coupon, and we will convince you. Print one less letter in "Discussions" and put in a voting coupon. Can't you see that Muller's work is EXACTLY suited for a mag., like AMAZING STORIES? The futuristic effects, etc.' Personally, I'd like to see him do all the covers. Morey's work is getting as bad as the stories. Even the "Discussions" aren't as interesting as formerly. So what *is* there left?

"Why do you read the mag., if you don't like it?" you ask? Well, Mr. Editor, I've read AMAZING STORIES since Volume I, Number 1, and I would hate to let it down; the main reason I keep any more at all is to keep up my file. And I do have hopes of seeing it rise from the rut into which it has fallen.

Give us like authors where Mr. Ackerman mentions—and I could add several more. They are writing for *other* mags, I notice. Publish some reprints in an Annual or as pamphlets, or some such thing. We don't care what. Print them on wrapping paper. Charge 25c a copy—50c—dollar; we don't care which. But print *What we want is reprints!!* If you doubt that, as you seem to do every suggestion that is made for your own good, print two letters less in "Discussions" and use the space for another vote coupon, and we'll *show* you—in a way that will leave no room for doubt. I can hear you now, saying: "Due to the fact that the great majority of our readers like original stories, we . . . etc. et cet." etc. However, you may rest assured that your letter will receive every consideration." And such bunk. Applesauce! I've seen that line so often that I'm sick of it. But I haven't seen any indication of your "every consideration." I haven't seen any vote coupons.

Yes, you have many stories on hand by the well-known authors—the worst attempts by those authors, judging by recent AMAZING STORIES. It's the worst scientifiction mag. in print today.

In short, Mr. Editor, it is very evident that you are on the wrong track and don't realize it. And that is why we must write these letters. We don't enjoy doing it. Mr. Ackerman is right in saying that you are a very good editor. Yes, sir; no doubt about that. And your editorials, every month, have been fine! But we want AMAZING STORIES back into form again. Almost six years, now! It's a shame!

And if I've been a trifle severe, I'm sorry—but "I've regusted!"

Henry Hasse,
1126 Trowbridge St.,
Indianapolis, Indiana.

(We receive so many letters commending our humble efforts and so warmly appreciating what we have done, compared to letters like yours, that we cannot feel discouraged. Do not for a moment suppose that we depart from the principle of publishing letters of unfavorable criticism. We give such letters as yours full space in the discussions columns. Now we want you to do one thing. We want you to look over the letters in the discussions columns and see how many favorable criticisms reach us and the fact that we print such a letter as yours must convince you that our discussions columns are honest. And you must also remember that very often those who like the magazine best and read it the most regularly, write us the least of all. They write only when something special is "hits" them, one way or the other. We can best judge the results of our efforts by the plain, bare circulation figures, and those are most encouraging, although they are still a long distance from our ultimate goal. We'll continue to improve the magazine and we hope to see the figures continue to rise.—EDITOR.)

PHLOGISTON CHEMICAL COMPOUNDS

Editor, AMAZING STORIES:

Please get Leo Morey to paint more pictures of the sort that appeared on the May issue. It isn't correct—that is, in agreement with the story—but it's a—pardon me—open gasket cover.

"The Nationality of Chemistry" was very good. In it you point out obvious facts that people do not ordinarily stop to figure out. What is the "phlogiston theory"? I know very little chemistry, but I would like to have this question answered—How may two different things be made out of the same things (beach sand and quartz)?

"The Metal Doom" is very interesting. There are some questions I would like to ask concerning this story, but I will wait until I have read it all.

"The Return of the Tripeds" was a fitting sequel to "The Planet of the Double Sun." 21MM392 has an ovum brain—how does into a chamber with the Tripeds—organic matter is forced through to the Blue Dimension—inorganic matter is left in the chamber—how does 21MM392 retain his brain? The machine men are made of metal—they remain under water 5 or 6 hundred years—and they do not rust—is it a fact that a metal (iron) may be submerged in a liquid, and as long as it is not exposed to the air it will not rust?

"The Perfect Planet" is good—its ending is tricky.

"Whoops, my dear—I forgot something." How do you pronounce words which contain no vowels? (Glrg, Jbf, Brlx, etc.)

"The Lemurian Documents, 'No. III—Deluges and Icarus,'" was good. I was wondering how Mr. Burtt would manage to work into the story—logically, the falling of Icarus into the sea. It is little things like that which make or mar a story.

"World's Adrift"—when it comes to describing that which may never exist is inadequate. What happened out on the second Earth? Huh? What? Mr. Hale—*please*—pretty *please* give us a hint from *your point of view*.

"The Doubt," good—very plausible—that is what I like to see in a story—the possibility of it actually happening.

Now I return to "In the Realm of Books." "Impossible!" you exclaim. Now—come, come, you're slipping! Where do I hear you—*HERE* is "In the Realm of Books" in the May issue—where?

Will you please print this announcement?

A Science Fiction Club is to be started by me. Will anyone interested write me for further details. Please enclose a stamped, self-addressed envelope.

James McCrae,
4801 Longshore Street,
Philadelphia, Penna.

(Modern chemistry is built on the theory of simple addition and multiplication. The old-

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29x5.00-20	2.25	30x5.00-20	2.25
28x5.25-18	2.45	29x5.25-19	2.45
29x5.25-20	2.45	30x5.25-20	2.45
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BUT OTHERS WANT MEDICAL STORIES, ETC.

Editor, AMAZING STORIES:

I have been reading AMAZING STORIES for slightly over a year, but I have not read it regularly. I have many criticisms to make about the stories.

As a rule, your stories are either very excellent or very poor. One of the best stories I have ever read was "The Stone from the Green Star" by that most excellent author, Jack Williamson. On the other hand, "Prima Donna, 1980," was one of the "punkest" stories to ever disgrace the pages of your mag.

Your issues seem to vary also in quality. The March issue, which I have just read, was very good. The October issue was also good, except for "The Stone from the Green Star."

When I read some of the stories, I feel as if I am reading a real mag. When I read others, it seems that I am reading a textbook; they are so "dry."

However, the March issue is very good. "Cities of Ardathia" was a real story, *a different one,* written by a great author, Francis Flagg. "The Light from Infinity" was also excellent, written by L. A. Eshbach, another good writer. If you keep up the good work, I will be an ardent reader of AMAZING STORIES.

I would like to see more interplanetary stories and inter-dimensional tales, and fewer stories of unusual medical operations and the like. These stories seem mostly like boring articles of science. I could read them in any scientific magazine of fact.

I am sorry I have had to throw so many brickbats, but I hope that A. S. will keep up to the standard set by the March issue.

Bill Bailey,
1404 Wightman St.,
Pittsburgh, Penn.

(You must remember that the like or dislike of one reader, for a story must not influence our editorial judgement. You must remember that we have a great many readers and our effort is to produce one magazine after the other which will please up to those who read it. It is perfectly evident that a story which will please one person will not please another and the Discussions show that there are very clearly. With regard to interplanetary stories, we can truthfully say that we are rather favoring them and sometimes we feel that we are overdoing many, but our readers seem to like them. You need not be sorry that you have to throw so many brickbats, as we feel for ourselves a target for such projectiles.—EDITOR.)

AN INDEFATIGABLE READER WHO HAS READ EVERY ISSUE OF AMAZING STORIES FROM THE BEGINNING

Editor, AMAZING STORIES:

There are suggestions I would like to make concerning our magazine. I take the liberty of saying "our magazine," for I have every single issue from Volume One, Number One, onward. The stories are perfect, the editor's article is perfect, but when it comes to the Discussions! What we need in our magazine is better readers.

However, I would like somebody to explain visible death rays, etc. It seems strange that in practically every case the author uses death rays visible, but no ray of the visible spectrum would have such an effect.

Disintegration rays also need an explanation. These rays are supposed to separate atoms into their component electrons and protons. Electricity is supposed to be a stream of free electrons, and if the above were the case, I can hardly imagine the terrific lightning bolts which would be the result.

There are two facts which need to be developed in scientific fiction. Mr. Campbell's condensed light energy, and the relation of molecular structure to the properties of matter, color, etc. I would like to see some good authors develop these theories.

G. G. Gallagher,
505 N. Jackson Street,
Glendale, Calif.

(One sometimes has a suspicion that the highest grade of our readers do not write to the "Discussions." We certainly wish they would. All that we can claim is that the "Discussions" probably give a good cross-section of "readers of our magazine" as you call it in your letter and which we take as a great compliment. We think that you need not try to reason out too much about the death rays, etc., in our stories. You are really giving Mr. Campbell an excellent chance to write us a nice letter on this subject.—EDITOR.)

A SECOND LETTER ABOUT RADIANT HEAT

Editor, AMAZING STORIES:

"You've got me all wrong." In a previous letter to you I stated that heat can travel only if conducted by some tangible object. It also seems to me that the heat from the sun gets here only by being conducted by the free electrons of the sun's rays, and if a body containing heat were placed in space in shadow where no light could reach it, no heat would emanate from it. In return you held the example of the steam heater as proof that my theory could not hold water. In doing so, apparently you lost sight of the very simple fact that the heat given out by the radiator *is transferred from one molecule of the air to the next to another,* and thus the heat travels, is conducted. I can remember that this was explained to us by our science teacher in the first year high school. The aforementioned radiator did not *radiate* heat.

This theory seems very plausible to me, but if you could convince me that I am wrong by absolute logic, I would be only too glad.

Richard Hayden,
4152 N. Kildare Ave.,
Chicago, Ill.

(A body can radiate heat, although it is not luminous. A steam radiator, in addition to warming the air, also radiates heat as far as we know by the production of ether waves. Heated air ascends. Try holding a hot flat iron over the back of the hand and see if you do not feel the heat emitted therefrom—this is radiant heat. Radiant heat can exist outside of the visible spectrum, but of course the principal effect of the steam radiator is to heat the air by direct contact with its surface and start convection currents through the room. —EDITOR.)

APPRECIATION OF THE TRIPEDS STORIES; ANOTHER SEQUEL WANTED

Editor, AMAZING STORIES:

I have just finished reading the story "The Return of the Tripeds" and I would like to compliment Mr. Jones on it. It was equally as interesting as the first two "adventures" of Professor Jameson. The interest in these stories, I think, is because they have plots, that is, each adventure has a unique plot that are different from the usual story. However these weren't the only good features, for the story was very well written. The author of this story was an excellent example of science fiction and I hope you will consider my request for another sequel. Should it be true, I intend to ask for a third sequel to a story but in this case Mr. Jones has made you feel as if you were through. Professor Jameson's adventure with him and he becomes like a friend you have known. I'm sure the majority of readers will welcome him back in a new adventure with the immortal Zoromes.

The story "Worlds Adrift" was entirely too depressing. It had a sort of a hopeless atmosphere through the entire thing and ended with everything being lost. Aside from that, the story was fair. A sequel to it might be quite interesting if Jones could find a way to the story. As the tale ended, the "half earth" was streaking out into space, away from the sun its inhabitants doomed to an older and colder and finally freezing to death. However, let me suggest that since the person who calls himself "I" in the story has a fine imagination or courage to go on, why not have his son, Ottokar, continue?

"The Perfect Planet" was all right but it didn't contain enough science, and no explanations of what science did appear. "The Caves of Pele" was fair, and "Nebulis and Dreams" of "the Lemurian Documents" was very good. I haven't read "The Metal Doom."

There is just one more sequel I would like to make and that is—How about another story by A. Hyatt Verrill?

Aside from the few things mentioned above, the issue was pretty good; that is, the stories were. There are just two pictures I would like to complain about and one is the cover picture and the other is the illustration for "The Return of the Tripeds." It says in the story that "the machine men of Zor" had six metal tentacles for their upper appendages. From the two views, one on the cover and the other in the book, it is plain that Morey only drew them with four tentacles.

James Dawley,
Miami Military School,
Germantown, Ohio.

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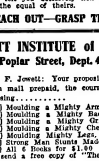

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PROF. JORGENSEN
1500 Lloyd Bldg., Seattle, Wash.

(We are glad that you like Professor Jameson and we hope to give you more of his adventures. In Conan Doyle's stories, Sherlock Holmes lasted a long while and after he was killed he was used as the basis of further narrations. Professor Jameson might have a similar fate. "The Metal Doom" of which you speak, answers very well to your characterization of Dr. Keller's writings.—EDITOR.)

BUT THAT'S WHY WE PUBLISH A QUARTERLY!

Editor, AMAZING STORIES:

Although, I have been a reader of your magazine since its first appearance, and have a complete collection of the back numbers of your magazine, this is the first time I have written you.

I wish to commend you on the improvement of the quality of your stories of late. This is very noticeable when looking through the back numbers of your periodical.

My favorite among your authors are Taine and E. E. Smith, with Taine very decidedly No. 1.

The long story in my opinion is the one that develops general excellence and depth of plot. At present we must wait from three to four months for the end of the story when run as a serial, which is not so good. My idea is to publish a complete long science fiction story in magazine form, at perhaps irregular intervals, distributed among the newsstands and advertised in your magazine. I am sure your readers would support this plan.

R. Carl,
136-77—39th Avenue,
Flushing, L. I., N. Y.

(The complete collection of AMAZING STORIES is very difficult to obtain and must have a considerable value. The judgment of one who has followed our magazine from the first issue, who has seen the carefully worked out cover illustrations for so many years, and who is familiar with the staff authors, we are tempted to call such writers as Dr. Keller, Dr. Breuer, Harl Vincent, Captain Meek, Dr. Smith and other famous writers extremely valuable and your commendations means a great deal to us. We publish long stories practically of book length in this magazine, but that seems to cover pretty well the idea you express at the end of your letter. Of course, opinions vary about continued stories, people object to them, and some people, we believe, enjoy being kept in suspense awaiting the next issue. All we can say is that we appreciate your criticisms and hope that you will be with us for many years to come.—EDITOR.)

TAKING SCIENCE STORIES WITH A GRAIN OF SALT

Editor, AMAZING STORIES:

I am a constant reader of your magazine and of course I think it the best magazine I have ever read or ever hope to read. I really believe I have learned more from it than from school work about science, and found it more enjoyable. Of course I have learned to take some of the statements with the proverbial grain of salt. For instance, in the story "Worlds Adrift" the author mentions that the world had been cut in half and that an object would fall off its edge. That seems funny to me. I have always thought that the center of gravity was in the center of the world. Therefore, if the world were to be cut in half, the center of gravity would naturally change. Then, if the people on earth were to walk toward the rim, they would be walking up hill. And if they went over the edge, they would walk down. I would like to have it explained why the center of gravity did not change when the world was split. Otherwise, the story was very interesting. My only idea is that AMAZING STORIES came out every week and I had every copy. I am 18 and I expect to read the magazine for a good while and learn a great deal more about science. Here's to more and as good or better stories.

Cecil Hollmann,
525 Siegel Ave.,
Washington, Mo.

(Of course, when the world was formed, the center of gravities of the cubes had to also shift and a person who went over the edge might expect to be drawn down along and against the cross-section of the sphere. As to whether they would be able to walk upon the flat cross-section of a hemisphere that is an open question. We do not always get such pleasant letters as yours from our science critics, who seem to have a tendency to scold us and we certainly appreciate your kind remarks.—EDITOR.)

JUNIOR SCIENTIFIC ASSOCIATION

Editor, AMAZING STORIES:

This is to notify the readers of this magazine that the *Boys' Scientifiction Club* was recently dissolved, and that in its stead *The Junior Scientific Association* has arisen. Its policies are practically the same; with the exception that it includes a broader field. Its purpose, as expressed in the charter, is *"To interest the younger generation in science so that they may be of the first use which scientists say contribute to the material progress of humanity."* Along side of that, it maintains a library of science articles, including almost every science-fiction magazine ever published. There are various departments which issue bulletins on their particular subject. The departments now in existence are: The *Interplanetary Dept.*, managed by Edwin P. Martz, Jr.; *The Astronomy Dept.*, also managed by Martz; and the *Chemistry and Physics Dept.*, which is still in the making.

There are some 60 members. An Advisory Department includes many famous Science-fiction authors, well known to your readers. Membership needs between the ages of 10 and 18 of either sex or any race can join by merely sending 25c enrollment dues to the office of the Secretary Treasurer: Sheldon B. Shaw, 169 Lunada Way, San Francisco, Cal. In case of a member in another country, they can become Associate members with almost the same privileges as the regular members, free! All articles sent to them from the library, though, will be mailed Collect.

We are having a membership drive now, and hope to step the membership up to a hundred before October.

A bi-monthly club publication containing news, articles, stories by members, and sometimes by professional authors (A story by Ed Earl Repp is now running) is issued to each member.

The Junior Scientific Association,
Headquarters: 48 Lunada Way,
San Francisco, California.
By Jim Nicholson,
President, Protem.

(We are very glad to publish this announcement. It is a real tribute to our Discussions department that it has given rise to forming societies of this character. We are surprised at the success that has attended your efforts in the way of correspondence. We will note in the "Discussions" that correspondence is asked for from those who wish other readers to write to them, and such Associations as yours may do much to forward such correspondence.—EDITOR.)

SOME CRITICISM OF A FAVORITE STORY. IT TAKES MORE THAN ONE TO SETTLE THE QUESTION OF MERIT

Editor, AMAZING STORIES:

Since this is my first contribution to the Discussions department, I hope I will be pardoned for my belated comment on some of your older stories. First let me say most emphatically that I did not like Dr. Smith's "Skylark" stories. Although I realize that the stories in A. S. must necessarily contain a great many impossibilities, I nevertheless protest strongly against the peopling of almost every planet in each solar system with human like creatures. Also I do not like the numbskullness with which Dr. Smith throws in speeds greater than that of light and different inventions remedying each difficulty in which Taine, the greatest scientist of the universe finds himself. To tell the truth, I read the stories with the suspicion that Dr. Smith was going to end by making us be voted them.

For much the same reasons I don't like the tales of John Campbell, Jr., who is Smith's deadly rival in the realm of super extravagant fiction. When it comes to a real gem of a story give me Dr. David Keller, Miles J. Breuer, or John Taine. The latter has something which can be found in the work of no one else, a sort of mysterious power which intrigues my interest from the beginning to the end of his story. I'll always regard the "White Lily" one of the finest stories ever written. Breuer's short stories are real gems and his "Gostak and the Doshes" tops them all. Keller is always interesting. Retain these three and you will *remain* the "aristocrat of scientific fiction."

Capt. S. P. Meek's "Drums of Tapajos" and "Troyana" were great tales and I add my "Hurrah" for the publication of all such authors whose names give A. S. its outstanding distinction are Bob Olsen, Harl Vincent, Neil R. Jones (and I hope his "Jameson" stories go

on forever, masterpieces, every one) Aladra Septams (what's happened to him?), William Lemkin, Francis Flagg and Murray Leinster. And those "Lemurian Documents" are corking stories.

Now I add my congratulations to the hundreds of others on your seventh birthday and wish that in the years to come you will continue to hold aloft the torch of scientific fiction and let your feeble imitators straggle along behind.

Robert Turner,
836 Riverside Drive,
New York City.

(We wouldn't be surprised if Dr. Smith did smile when he writes his stories. We happen to know he enjoys writing them. As for authors, he stands almost at the head of those who please our readers the most. John Campbell, Jr., has also won great popularity. We are very glad to see you give the names of Dr. Keller, Dr. Breuer and John Taine as favorite authors. We consider them pretty well at the top of our list and what interests us is that they stick to us, so that we can consider them old friends. Dr. Keller has the art of writing short stories and giving them capital endings. No story we have published has excited more attention than his "Gostak and the Doshes."—EDITOR.)

NOTES ON STORIES APPROVED OF AND SOME QUESTIONS IN PHYSICS

Editor, AMAZING STORIES:

I have just finished the April issue of AMAZING STORIES and was satisfied, to say the least. It was one of the best issues I have read yet, and I have been reading A.S. for about two years.

Here's how I lined them up.

(1) "Seven Sunstrokes," by Bob Olsen, is one of the best AMAZING STORIES I have read. And here's hoping for more stories by him.

(2) "Troyana," by Capt. Meek, although it is the end of a series, it is a story in itself. Let's have another.

(3) "Cosmic Steeplechase," by Robert Wait, was a good story, but I didn't like the ending. After they once caught Bellante, they should have put him in irons for the remainder of the trip.

(4) "Mechanocracy," by Miles Breuer.

(5) "The Lost Machine," by John Harris. I guess that's that.

In the October issue the story "The Stone from the Green Star" was a swell story, and I hope to read more by the same author.

I have a couple of questions I would like answered. The first is: What would happen if an irresistible force met an immovable body? I think an explosion would result. What is the speed of electricity, along a wire?

Art Bloom,
25 W. Skidmore Street,
Portland, Oregon

(We appreciate your short letter in which you tell us what stories you have liked in the April issue of our magazine. The old paradox about the irresistible force and immovable body has really no answer, and the explosion which you speak of implies the motion of the particles of the one body and the change of motion in the particles of the other one. The velocity of an electron producing a current of one ampere in a copper wire one mm. in diameter requires the average velocity of about 0.001cm. per second. In other words the progressive motions of an electron in a circuit is very slow, but the least motion at one end of a wire is felt in an almost instantly short space of time at the other, perhaps nearly one-quarter the speed of light.—EDITOR.)

A NOTICE FROM THE INTERNATIONAL SCIENTIFIC ASSOCIATION

Editor, AMAZING STORIES:

This is to notify you that Mr. Aubrey Clements, 660 W. Peachtree St., Atlanta, Ga., has been appointed Secretary of the ISA. Thus all inquiries regarding membership must be made to him direct. Also, I wish to make a correction regarding payments of dues. First payment of dues must accompany application blank, and not letter of inquiry. No cash or stamps will be accepted. Payment must be made by checks on par banks, or by money orders. If cash is sent, statement of amount must be included. These precautions are taken to insure against errors in payments, as the Treasurer's office is separate from the Secretary's.

Raymond A. Healey,
Publicity Director, ISA,
2755 North 13 St.,
Milwaukee, Wis.

A CORRESPONDENT INTERESTED IN SPACE TRAVEL. HE HOPES TO OPEN COMMUNICATION WITH OTHERS OF OUR READERS

Editor, AMAZING STORIES:

Just a few lines to let you know how much I enjoy your magazine. I find that if I want an instructive and interesting evening, AMAZING STORIES will do the job.

I am an electrical engineer and can readily see where many of your stories are quite possible. If this old earth and its people continue as it has in the immediate past, space travel will soon be a reality.

I should like very much to correspond with anyone interested in any phases of science, and would like to discuss the following: What has been done to make space travel possible in the future? Who are conducting these experiments and what success have they had? Is it a fact that one would have to guard against being too warm instead of too cold when traveling in space between planets?

Come on, you fellows that like to chew the rag; exchange ideas and help put this thing on a working basis. Why not cooperate with AMAZING STORIES and draw up a set of carefully considered plans? I, for one, would not hesitate to invest in something that would help make interplanetary travel possible. There are sure to be failures, but experience is one of our best teachers.

Why not have more scientific questions and answers and less criticisms in our discussions?

Lyle M. Brady,
7032 Cedar St.,
Huntington Park, Cal.

(We take great pleasure in publishing your letter in which you say you would like to correspond with anyone interested in the pieces of science. We believe there are many of our readers, who, like yourself, are believers in space travel. The temperature variation of space, as affecting an object in it, is naturally quite a puzzle. As long as the traveler was near a sun, he would receive a great deal of heat from its radiation. We hope that your letter will have due effect in getting you some interesting correspondence from our readers.—EDITOR.)

A LETTER FROM ENGLAND GIVING THE CORRESPONDENT'S VIEW ON DIFFERENT STORIES, ALSO NOTES ON ENGLISH

Editor, AMAZING STORIES:

I duly received numbers of AMAZING STORIES and your QUARTERLY, and, as you know, two other American magazines of similar character issued monthly, but I prefer yours. I am glad I have not subscribed nowadays to criticize your authors. But the impious and attentive skeptic will not fail in the short story of "The Sages of Ecs" to notice two discrepancies in the account given by one of the Sages. Do authors reread their own stories? I have read "The Time Stream," H. Benson (d. 1914) lost interest in a book once he had concluded it.

Naturally, I do not like all the stories so far appearing under AMAZING STORIES, e.g. "Seeds of Time," but that does not mean that it is not well written. "Islands of Space" should be criticized for having too realistic touch. "Spacehounds of IPC" does not overdo it. "The Drums of Tapajos" and sequel are good. The "Lunar Chrysalis" ends too abruptly, perhaps "something to be devoutly wished for than believed to be true." "The Blue Barbarians" is very good. "A Voice across the Years" leaves a depressing ending to the imagination. Do not leave Professor Jameson on his satellite ship.

Finally, may I ask your authors to avoid "this much," "that much," "that long" in favor of "so long as," "so far as," etc., as taught in an American novel (still read), "The Wide, Wide World."

Frances H. P. Knight,
152 Harden Road,
Leamore, Walsall,
Staffordshire, Eng.

(It is always interesting to get letters from England. The point of expression in the last respondents is quite different from that of American ones. There is a rather interesting point about adverbial expression in the last paragraph of the letter and we are sorry that the writer did not give it greater length. It is a conscious effort for us hard to follow. We do think that your longer expression is preferable to the two word abbreviations which you complain of.—EDITOR.)

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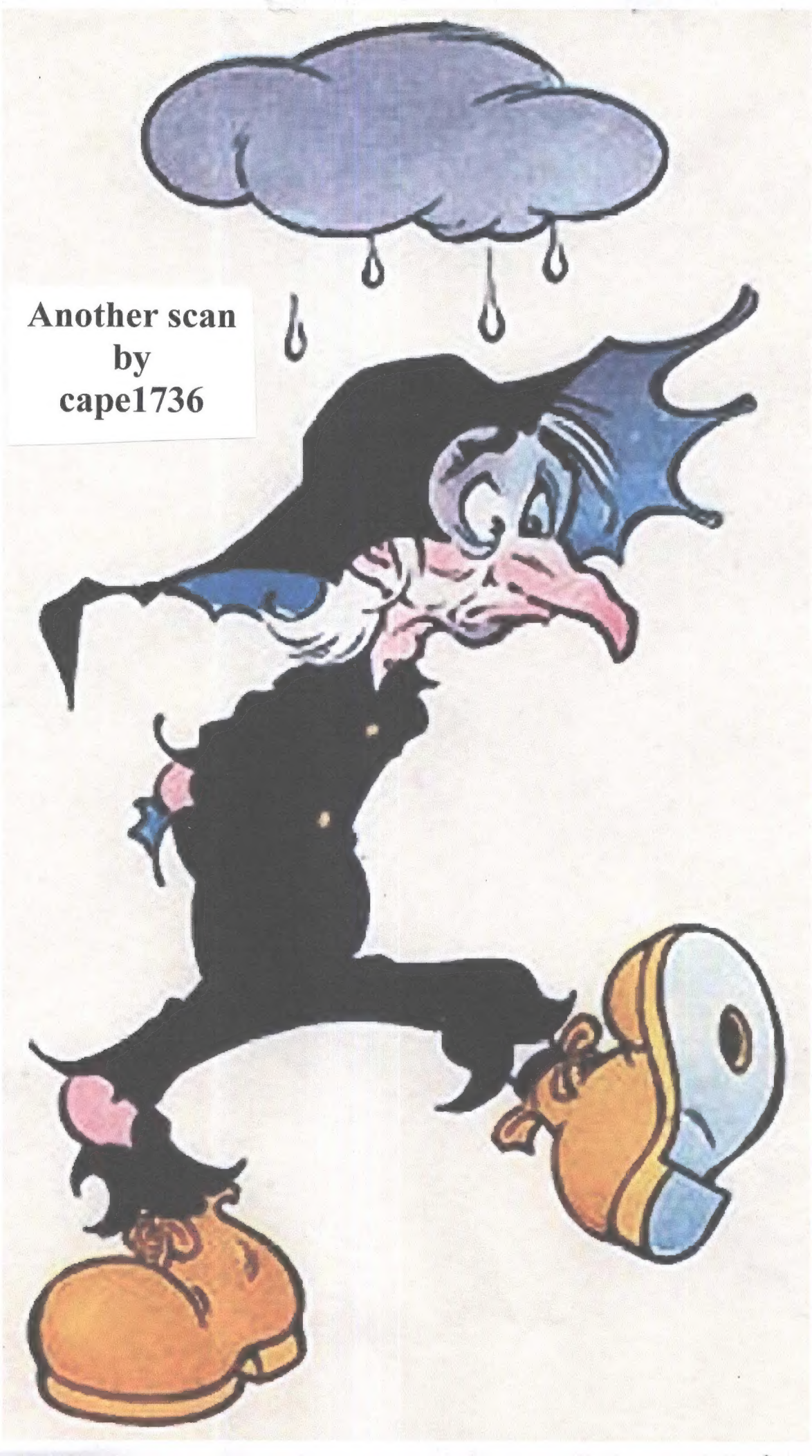
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